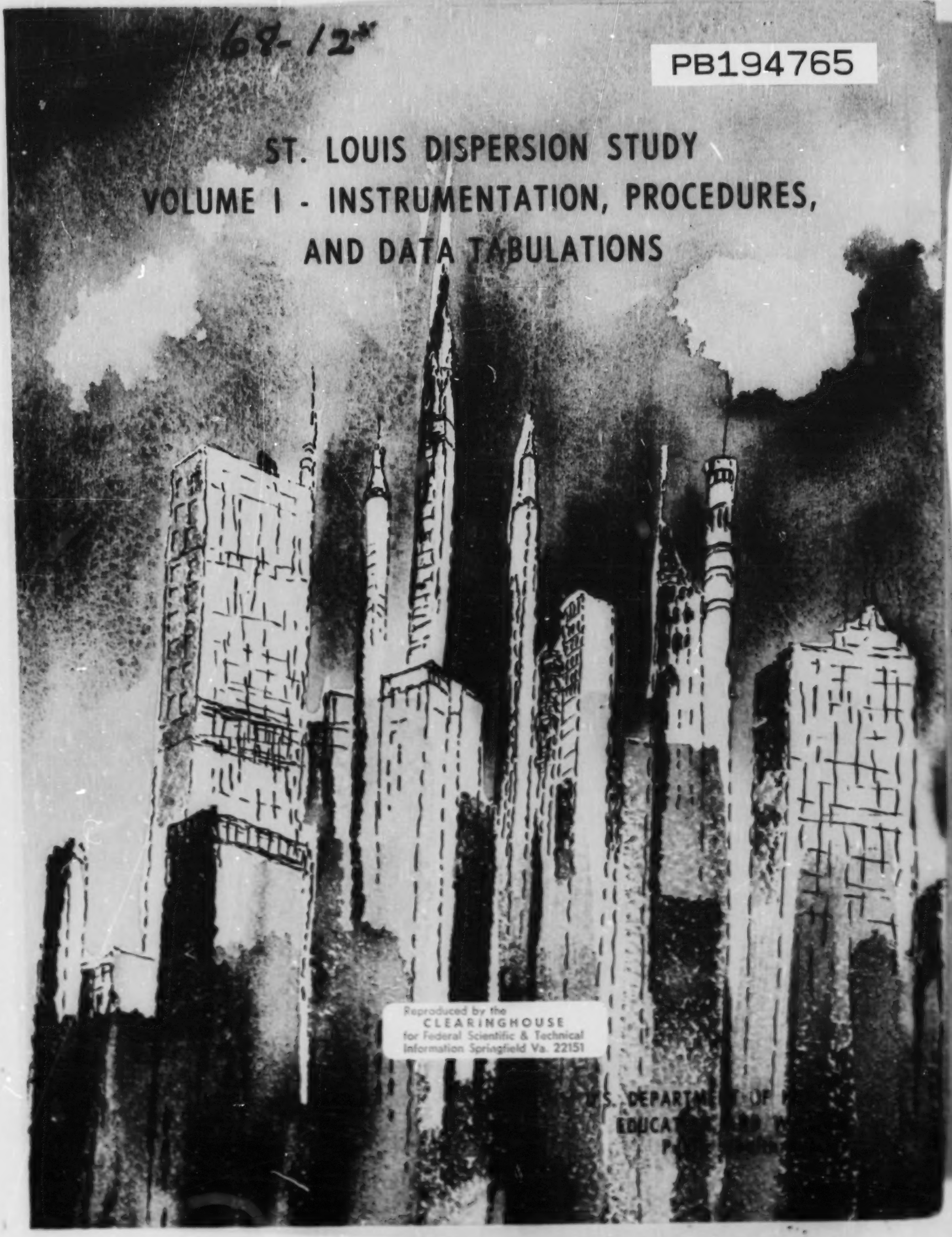
68-12*

PB194765

# ST. LOUIS DISPERSION STUDY
# VOLUME I - INSTRUMENTATION, PROCEDURES, AND DATA TABULATIONS



Reproduced by the
CLEARINGHOUSE
for Federal Scientific & Technical
Information Springfield Va. 22151

U.S. DEPARTM[illegible] OF H[illegible]
EDUCA[illegible]
P[illegible]

| STANDARD TITLE PAGE FOR TECHNICAL REPORTS | 1. Report No. APTD 68-12 | 2. Gov't. Accession No. | 3. Recipient's Catalog No. |
|---|---|---|---|
| 4. Title and Subtitle<br>St. Louis Dispersion Study<br>Volume 1 - Instrumentation, Procedures, and Data Tabulations | | | 5. Report Date<br>August 1968<br>6. Performing Organization Code |
| 7. Author(s)<br>James L. McElroy and Francis Pooler, Jr. | | | 8. Performing Organization Rept. No. |
| 9. Performing Organization Name and Address<br>Consumer Protection and Environmental Health Service<br>National Air Pollution Control Administration<br>Durham, North Carolina | | | 10. Project/Task/Work Unit No.<br>11. Contract/Grant No. |
| 12. Sponsoring Agency Name and Address<br>SAME | | | 13. Type of Report & Period Covered<br>14. Sponsoring Agency Code |

15. Supplementary Notes

The APTD series reports technical data of interest to a limited readership.

16. Abstracts

The St. Louis Dispersion Study was designed to describe atmospheric transport and diffusion over an urban area, from analyses of the behavior of airborne tracer material released at a point source. A total of 43 experiments, including a test run, were conducted in seven series in urban St. Louis, Missouri, between May 1963 and March 1965. Part I of this volume describes the field sites, dissemination and sampling equipment, meteorological equipment, and operating procedures. Part II presents tabulations of the diffusion and meteorological data collected during the study.

17. Key Words and Document Analysis. (a). Descriptors

Air pollution
Urban areas
Atmospheric diffusion
Aerosols
Markers
Marking
Fluorescence
Measuring instruments
Field tests
Sites
Aerosol generators
Samplers
Meteorological instruments
Experimental data
Meteorological data
Wind (meteorology)
Meteorological balloons
Tethered balloons
Radiosondes

17b. Identifiers/Open-Ended Terms

Fluorescent particles
St. Louis
Tracers (atmospheric)
Point sources

17c. COSATI Field/Group 13/02, 04/01

| 18. Distribution Statement | 19. Security Class (This Report) | 21. No. of Pages |
|---|---|---|
| UNLIMITED | UNCLASSIFIED | 359 |
| | 20. Security Class. (This Page) UNCLASSIFIED | 22. Price |

FORM NBS-847(1-70)

# ST. LOUIS DISPERSION STUDY
# VOLUME I - INSTRUMENTATION, PROCEDURES, AND DATA TABULATIONS

James L. McElroy
and
Francis Pooler, Jr.
Air Resources Cincinnati Laboratory
Environmental Science Services Administration

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Consumer Protection and Environmental Health Service
National Air Pollution Control Administration
Durham, North Carolina
August 1968

The APTD series of reports is issued by the National Air Pollution Control Administration to report technical data of interest to a limited readership. Copies of APTD reports may be obtained upon request, as supplies permit, from the Office of Technical Information and Publications, National Air Pollution Control Administration, U.S. Department of Health, Education, and Welfare, Ballston Center Tower No. 2, 801 North Randolph Street, Arlington, Virginia, 22203.

National Air Pollution Control Administration Report APTD-68-12

# CONTENTS


INTRODUCTION . . . . . 1

PART 1 - INSTRUMENTATION AND PROCEDURES . . . . . 3

TOPOGRAPHY AND GENERAL CLIMATOLOGY . . . . . 3

ATMOSPHERIC TRACER NETWORK AND INSTRUMENTATION . . . . . 5

Tracer System . . . . . 5

Dissemination Equipment . . . . . 6

Sampling Equipment . . . . . 6

Tracer Release Sites and Sampling Arcs . . . . . 7

METEOROLOGICAL INSTRUMENTATION . . . . . 9

Fixed Network . . . . . 9

Lindbergh High School Site . . . . . 9

Missouri State Police Station C Site . . . . . 10

Hazelwood High School Site . . . . . 10

KMOX-TV Tower . . . . . 10

Special Observations . . . . . 13

Surface Winds at the Tracer Release Sites . . . . . 13

Pilot Balloon Ascents . . . . . 13

Tetroon Releases . . . . . 13

Free and Tethered Radiosonde Ascents . . . . . 14

OPERATING PROCEDURES FOR DIFFUSION EXPERIMENTS . . . . . 15

PART 2 - DATA TABULATIONS . . . . . 33

INTRODUCTION . . . . . 33

EXPERIMENT SUMMARY SHEETS . . . . . 35

SAMPLER DOSAGE DATA . . . . . 121

TETROON OBSERVATIONS . . . . . 189

PILOT BALLOON MEASUREMENTS . . . . . 197

RAWINSONDE MEASUREMENTS . . . . . 211

FREE AND TETHERED RADIOSONDE MEASUREMENTS . . . . . 235

SURFACE WIND MEASUREMENTS AT TRACER RELEASE SITES . . . . . 243

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER MEASUREMENTS . . . . . 249

METEOROLOGICAL MEASUREMENTS AT OUTLYING STATIONS . . . . . 271

METEOROLOGICAL MEASUREMENTS ON KMOX-TV TOWER . . . . . 321

ACKNOWLEDGMENTS . . . . . 349

REFERENCES . . . . . 351

# LIST OF TABLES


1. Experiment Summary Sheets . . . . . 36
2. Rotorod Sampler Efficiencies . . . . . 121
3. Flow Rates of Drum-Pulsed Samplers . . . . . 121
4. Total Dosages at Surface . . . . . 123
5. Sequential Dosages at Surface . . . . . 151
6. Vertical Distribution of Rotorod Dosages . . . . . 187
7. Tetroon Observations . . . . . 190
8. Pilot Balloon Measurements . . . . . 199
9. Rawinsonde Measurements . . . . . 213
10. St. Louis Radiosonde Measurements . . . . . 237
11. St. Louis Tethered Radiosonde Measurements . . . . . 241
12. Surface Wind Measurements at Tracer Release Sites . . . . . 245
13. Surface Weather Measurements, St. Louis, Missouri (WBAS, Lambert Field) 250
14. Meteorological Measurements, Missouri State Police Station C . . . . . 273
15. Meteorological Measurements, Lindbergh High School . . . . . 289
16. Meteorological Measurements, Hazelwood High School . . . . . 305
17. Wind Measurements, KMOX-TV Tower . . . . . 323
18. Vertical Temperature-Difference Measurements, KMOX-TV Tower . . . . . 345

# LIST OF FIGURES


1. Topographic Map of St. Louis Area . . . . . 17
2. Fluorescent Particle Aerosol Generator . . . . . 18
3. Drum-Pulsed Sampler . . . . . 18
4. Rotorod Sampler . . . . . 19
5. Membrane Filter Sampler . . . . . 19
6. Generalized Land Usage Map of St. Louis Area . . . . . 20
7. Forest Park Dissemination Site . . . . . 21
8. Rotorod Sampler Attached to Tethering Line . . . . . 22
9. Hygrothermograph, Maximum and Minimum Thermometers, and Psychrometer in a Louvered Stevenson Shelter . . . . . 22
10. Lindbergh High School . . . . . 23
11. Aerovane Wind Speed and Direction Sensor . . . . . 23
12. Missouri State Police Station C and Transmission Tower . . . . . 24
13. Hazelwood High School . . . . . 25
14. KMOX-TV Tower . . . . . 26
15. Land Usage in the Vicinity of KMOX-TV Tower . . . . . 27
16. St. Louis as Seen from 125-Foot Level of KMOX-TV Tower
    a. Looking North
    b. Looking East
    c. Looking South . . . . . 28
    d. Looking West . . . . . 29
17. Leeds and Northrup Thermohm Unit . . . . . 30
18. Annular Fin Bivane . . . . . 30
19. Beckman and Whitley Wind Speed and Direction Sensors . . . . . 31
20. Tetroon and Attached Transponder . . . . . 31
21. Free Radiosonde Ascent . . . . . 32
22. Tethered Radiosonde Ascent . . . . . 32

# ABSTRACT

The St. Louis Dispersion Study was designed to describe atmospheric transport and diffusion over an urban area, from analyses of the behavior of airborne tracer material released at a point source. A total of 43 experiments, including a test run, were conducted in seven series in urban St. Louis, Missouri, between May 1963 and March 1965. Part I of this volume describes the field sites, dissemination and sampling equipment, meteorological equipment, and operating procedures. Part II presents tabulations of the diffusion and meteorological data collected during the study.

# ST. LOUIS DISPERSION STUDY
# VOLUME I - INSTRUMENTATION, PROCEDURES, AND DATA TABULATIONS

## INTRODUCTION

Most studies of atmospheric diffusion have been carried out over relatively uncomplicated terrain. The results of such programs as "Project Prairie Grass" (Barad, 1958) and the "Green Glow Diffusion Program" (Barad, et al., 1962) can be fitted within limits to a theoretical framework and they can be utilized to determine generalized diffusion coefficients with some degree of confidence. Although such investigations have yielded estimates of dispersion for urban areas, their direct applicability can be questioned, since the urban environment presents a different and more complex underlying surface than that encountered over open grassland or desert areas previously selected for diffusion programs. A primary objective of the St. Louis Dispersion Study was to describe dispersion over an urban area and to relate the dispersion to meteorological parameters. It should be emphasized, however, that this study was designed as a pilot program to indicate gross dispersion over an urban area; it was not to be an exhaustive investigation of atmospheric diffusion.

This program was jointly sponsored by the U. S. Public Health Service and the Environmental Science Services Administration. Between May 1963 and March 1965 seven series of tracer experiments were conducted in urban St. Louis, Missouri. These experiments were designed by personnel of the Air Resources Field Research Office, Cincinnati, Ohio (formerly Weather Bureau Research Station, Cincinnati, Ohio). Personnel from this facility as well as from the U. S. Public Health Service, the County of St. Louis, and Washington University (students) participated in the field program.

The initiation of a general study of air pollution in the St. Louis metropolitan area (U. S. Public Health Service, 1967) prompted the choice of St. Louis as the experimental area for investigation. Also, St. Louis met three additional desirable criteria: the city is in a reasonably flat area, removed from significant topographic features that would influence the large-scale air flow; weather radar equipment is operated by the Weather Bureau Airport Station as part of the national weather surveillance network; and the city is reasonably accessible from Cincinnati.

The objectives of this volume are (1) to describe the sites, equipment, procedures, and techniques used in planning and conducting the diffusion experiments, in measuring meteorological parameters, and in reducing and processing data; and (2) to present tabulations of the basic data and pertinent supplementary data. Part 1 mainly covers the first objective; Part 2 completely covers the second objective and includes some details of the first.

It is not the purpose of this volume to present analyses of the data, to evaluate existing diffusion models, or to devise new models. A preliminary analysis has been published by Pooler (1966), and a final report (Volume II of this study) will be issued by the sponsoring organizations.

# PART 1 - INSTRUMENTATION AND PROCEDURES

## TOPOGRAPHY AND GENERAL CLIMATOLOGY

As shown by the topographic map of Figure 1, the St. Louis terrain is gently rolling; elevations range from about 450 feet MSL in downtown St. Louis to about 550 feet at Lambert Field, 12 miles to the northwest (Walther, 1965). A slight ridge reaches 600 feet between the airport and the downtown area. A flat area, known as the American Bottoms, is encompassed by a crescent-shaped bluff rising to about 640 feet MSL and lies on the east side of the Mississippi River across from St. Louis. The average elevation of the Mississippi River is about 400 feet MSL and that of American Bottoms, 420 feet MSL.

The St. Louis area experiences a modified continental climate typical of most Great Plains cities not directly influenced by major geographic features. Winters are reasonably brisk but seldom severe; occasional short spells of extreme cold are intermingled with several periods of mild weather. A prevailing flow from the south and southwest causes warm, humid summers; spring and fall months have moderate temperatures. Spring months usually have the most violent storms (hailstorms, thundersqualls, and tornadoes) and the greatest frequency of stronger daytime winds. Precipitation occurs mostly as showers, with thunderstorms in summer; in winter, rains and occasional snows usually occur when moist air moves northward from the Gulf of Mexico.

BLANK PAGE

## ATMOSPHERIC TRACER NETWORK AND INSTRUMENTATION*

### TRACER SYSTEM

Initially the investigators decided to use an existing tracer system, since the development of a new system with its attendant problems could consume both time and resources. To allow for oversights and for the sampling of different types of weather, it was decided to divide the experiments into several series over a 2-year period. After a review of available tracer systems (see, e.g., Dumbauld, 1963), the fluorescent particle system utilizing zinc-cadmium sulfide was selected. The components of this system and the total number of each component procured* were 2 aerosol generators, 60 "Rotorod" samplers, 30 membrane filter samplers, and 10 drum-pulsed sequential samplers. Since this system and its properties are discussed in detail in Leighton, et al., (1965), only a brief basic description of the tracer material and the pertinent equipment is presented here.

Zinc-cadmium sulfide is an inorganic particulate capable of being fluoresced by near-ultraviolet radiation to form a continuous emission spectrum from red to blue with a maximum in the yellow. The fluorescence property is indefinitely maintained during storage and assessment. The substance is not affected by water or by heat up to 450°C; it dissolves slowly in acids; it has a decay half-life of fluorescence in milliseconds after the excitation source is removed; and, when suitable lots of the material are used, it is extremely stable even in long exposures to direct sunlight. Because of these and other properties, zinc-cadmium sulfide offers a simple and sensitive method of detection and quantitative evaluation.

The zinc cadmium sulfide materials used in the St. Louis tracer experiments were FP-2267, USRC Lots: 1320 with $1.71 \times 10^{10}$ particles per gram (PPG) and 3.04 $\mu$ mass mean diameter (MMD); 1339-1 with $1.61 \times 10^{10}$ PPG and 3.10 $\mu$ MMD; 1339-2 with $1.66 \times 10^{10}$ PPG and 3.06 $\mu$ MMD; 1339-3 with $1.64 \times 10^{10}$ PPG and 3.08 $\mu$ MMD; 1339-4 with $1.88 \times 10^{10}$ PPG and 2.94 $\mu$ MMD; 1339-5 with $1.83 \times 10^{10}$ PPG and 2.96 $\mu$ MMD: and, H-454 with $2.04 \times 10^{10}$ PPG and 2.86 $\mu$ MMD. The lots were pre-tested for fluorescence and size distribution and were fluidized by a private laboratory.

---

*Mention of commercial products does not constitute endorsement by the Public Health Service.

*The total number of each component of equipment was not necessarily used in each experiment; unused items served as backup equipment.



Preceding page blank

## DISSEMINATION EQUIPMENT

The tracer was dispersed from an aerosol disseminator like that shown in Figure 2; power for the dispenser was obtained from a portable gasoline engine generator of 1.5 kilowatts rated capacity. In dissemination, fluorescent particles were fed from a stirred hopper by a rotating toothed wheel into the intake of a high-speed centrifugal blower and dispersed as an aerosol of single, primary particles. Feed rates could be varied between 1 and 250 grams per minute by changing the size and rotation rate of the toothed wheel.

## SAMPLING EQUIPMENT

Drum-pulsed, Rotorod, and membrane-filter samplers were used in all of the St. Louis dispersion experiments. The drum-pulsed sampler (Figure 3) operated on the principle of impaction; air drawn at about 50 liters per minute through a slit nozzle impacted particles on the perimeter of a circular drum. A strip of black electrical tape, coated on one side with dilute rubber cement, was placed on the drum as the particle collector.* Aluminum tape coated with silicone grease or brass shimstock sprayed with black paint and coated with silicone grease were used as collectors during the first two experimental series, but these proved inadequate. The drum rotated 3 degrees at time intervals from 1 to 4 minutes, selected to provide up to 120 individual deposit patters to yield a sequential time resolution of the passage of the tracer cloud. Vacuum was furnished by a 1/3-horsepower pump operating on 110-volt AC power.

The Rotorod sampler (Figure 4), a battery-operated impaction sampler, moves the collector through the air rather than pumping air past the collector. Particles were collected on the edges of spinning H-shaped collector rods coated with silicone grease. The samplers were attached to the batteries with 16-inch lengths of aluminum corner molding. The batteries were equipped with straps for easy attachment to trees, light standards, and other such structures. This portable sampling unit yields a measure of total dosage. Flow rate was about 40 liters per minute, and collection efficiency depended on the size distribution of the fluorescent particles.

The membrane filter sampler, which also yields a measure of total dosage, operates by drawing air through a 1-inch-diameter membrane filter at a rate determined by a critical orifice in the base of the filter holder (Figure 5). The filters, made of cellulose acetate-nitrate, have a collection efficiency of almost 100 percent; virtually all of the particles are deposited on the upstream

*The counting of particles collected on the deposition areas of samplers was performed or contract by a private laboratory. For details of the assessment techniques consult Brown and Webster (1964).

filter face rather than within the filter pores. Vacuum was supplied by a 1/6-horsepower pump operating on 110-volt AC power. The filter holder was attached to the top of an 8-foot section of 1/2-inch pipe, the filter facing downward and the pipe being maintained erect in a mounting attached to the base of the pump.

## TRACER RELEASE SITES AND SAMPLING ARCS

Considering the climatology of the St. Louis area and evaluating potential tracer release sites, the investigators selected a site in the southeast corner of Forest Park, primarily to accommodate the prevailing westerly flow. The relationship of this site to the metropolitan St. Louis area is shown in Figure 6. The dissemination site is situated about one-third of the way down a gradual slope. A few scattered trees are in the area and the McDonnell Planetarium, located at the top of the rise, were not thought to cause significant interference. The site of the dissemination and the downslope direction of dissemination are shown in Figure 7.

Three concentric sampling arcs for this site were then selected east of Forest Park at nominal distances of 1/2, 2, and 4-1/2 miles; these arcs are numbered 1, 2, and 3, respectively, in Figure 6. Sampling sites were at nominal 6-degree intervals. Distances and azimuths of all sampling sites from the tracer release points were measured on U. S. Geological Survey, 7-1/2-minute quadrangle maps (scale 1:2400). Many compromises were made in the location of sampling sites to accommodate logistic requirements.

Before the second series of experiments, the roof of the Knights of Columbus Building (Figure 6) was chosen as a second release site to allow disseminations during southeast to southwest flow. This three-story building is in the midst of trees and buildings of comparable height. The roof measures about 75 feet by 100 feet; the long axis is nearly north-south and the short axis, east-west. A parapet skirts the eastern and southern sides of the roof, its height varying from 2-1/2 feet on the east and 3-1/2 feet on the south to about 5 feet on the northeast, southeast, and southwest corners. Disseminations were made from the unobstructed northwest corner of the roof. Sampling sites for this second release point were chosen at nominal 6-degree intervals on three concentric arcs at nominal distances of 1-1/4, 2-1/2, and 5 miles. These sampling arcs, numbered 4, 5, and 6 (Figure 6), extend west through north to east, or, to the Mississippi River.

As the experiments continued, changes were made in the azimuth spacing in some of the sampling arcs. After the third series of tests the number of sampling sites on arcs 3 and 6 was doubled so that narrow plumes that might exist during stable conditions could be defined better. At this time, other adjustments were made in the arcs to yield more uniform spacing between adjacent sites

and to provide more negotiable driving routes for servicing crews. Before the fifth series of releases, sampling sites at nominal 3-degree intervals were chosen along a seventh arc (Figure 6), concentric on the Knights of Columbus Building site at a nominal distance of 10 miles, to allow for longer travel times during unstable conditions.

As an aid in defining the types of underlying surface passed over by the tracer clouds, a land-use description of the metropolitan area was determined and delineated in Figure 6. The categories listed in the key to this figure describe the existing types of structures.

During the last four experimental series, a tethered Aerokyte balloon (shown in Figure 22) was equipped to secure estimates of total FP dosage in the vertical. Rotorod samplers were attached at varying intervals to the nylon tethering line; the method of attachment is illustrated in Figure 8.

## METEOROLOGICAL INSTRUMENTATION

### FIXED NETWORK

In the Spring of 1963 before the first experiments, a network of sites was established and instrumented to obtain climatological information on airflow patterns and thermal stability in the lower levels of the St. Louis area and to provide meteorological data during experiments as an aid in analyzing tracer results. Wind instruments (Aerovanes) and hygrothermographs were installed at three sites on the periphery of the urban area. These sites (Figure 6) were at Lindberg High School, Missouri State Police Station C, and Hazelwood High School. The KMOX-TV tower near the center of downtown St. Louis (Figure 6) was originally instrumented with Aerovanes at two levels (127 and 459 feet) and with temperature and temperature-difference equipment at three levels. In May 1964 another Aerovane was installed at a third level (255 feet), and in October 1964 a bivane was installed at the 127-foot level. Data collection from this network ceased in June 1965, two months after the final series of experiments.

#### Lindbergh High School Site

The area surrounding Lindbergh High School is relatively flat and open, with some trees and a few residences. A standard U. S. Weather Bureau hygrothermograph, like that mounted at this site, is shown in its Louvered Stevenson shelter in Figure 9. Maximum and minimum thermometers and psychrometers were utilized to maintain quality control on hygrothermographs. This station was originally located on a close-clipped lawn about 300 feet west of the high school. In January 1965, after incidents of vandalism to this installation, it was moved about 1/4 mile west of the original site to a close-clipped lawn about 100 feet in front of the Melville District Fire Station. The Aerovane wind transmitter was placed about 20 feet above the roof of the main Lindbergh High School building (Figure 10) and about 60 feet above the ground.

An Aerovane wind transmitter is shown in Figure 11. Wind speed was sensed by the impeller, whose threshold starting speed is about 1-3/4 miles per hour. Wind direction was sensed by the streamlined vane. Wind speed is directly proportional to the speed of rotation of the impeller blades and is a function of voltage generated by a magneto (Bendix Aviation Corp., 1956). Values for the wind speed and direction were electrically transmitted and recorded continuously on a two-channel recorder. Range of wind speed was 0 to 100 miles per hour on one channel; range of wind direction was 540 degrees of azimuth, allowing for crossover, on the other channel. Speed of chart rotation was 3 inches per hour.

Missouri State Police Station C Site

The area around Missouri State Police Station C is relatively open, gently rolling country. A few residences are in the general vicinity; the most prominent building in the area is a new four-story hospital about 1/2 mile south of the station. The hygrothermograph installation was situated on a close-clipped lawn about 60 feet west of the station. The Aerovane transmitter was attached to the end of an 8-foot boom on the west side of the broadcasting tower and about 85 feet above ground. The station and tower, which is about 20 feet wide at the base, are shown in Figure 12. Interference to air flow through the tower, mainly from the east, did not appear to be significant.

Hazelwood High School Site

The terrain in the vicinity of Hazelwood High School is open and gently rolling, with trees and a few residences interspersing the area. The Aerovane transmitter was placed about 20 feet above the southeast edge of the roof of the high school gymnasium (Figure 13) and about 60 feet above ground. The hygrothermograph installation was on the close-clipped lawn of the high school premises about 100 feet south of the gymnasium.

KMOX-TV Tower

The KMOX-TV tower (Figure 14) is located about 150 feet northeast of the intersection of 13th and Cole Streets near the center of downtown St. Louis; the tower reaches 563 feet above street level (468 feet MSL). Since the structures in the vicinity of the tower may have affected the records of the meteorological instrumentation placed on the tower, land usage in this vicinity is shown in Figure 15. The types of structures and their approximate heights above street level are described in the key to this figure. The downtown area around the tower is also shown in the series of photographs comprising Figure 16, taken toward several azimuths from the 125-foot level of the tower. Streets near the KMOX-TV tower are generally oriented either north-northeast, south-southwest or east-southeast, west-northwest.

The Aerovane wind transmitters were attached to the ends of 6-foot booms extending from the northwest corner of the tower at elevations 127, 255, and 459 feet above street level. Interference to the air flowing through the tower from the southeast was noted in the records of the Aerovane located at the 459-foot level. The boom holding this Aerovane transmitter was extended about 3 feet in May 1964 to lessen this effect.

The instruments for measuring temperature and temperature difference at elevations of 124, 249, and 452 feet above street level were likewise extended on booms from the northwest edge of the tower. The temperature-recording system

consisted of aspirated "thermohms" (Leeds and Northrup Corp., 1958) operating on the resistance principle with copper-wire sensing elements (Figure 17); the data were transmitted electrically to a multi-point recorder. The temperature at the 124-foot level and the temperature differences from 124 to 249 feet and from 124 to 452 feet, all in degrees Fahrenheit, were printed in that order once every 6 minutes. At 6-month intervals, calibration checks were performed on the sensing elements by immersing each of them in a stirred ice bath with a mercury-in-glass thermometer. Maximum allowed temperature spread between the two elements was $\pm$ 0.1 degree Fahrenheit.

In late October 1964 an annular fin bivane (Figure 18) was installed at the 127-foot level on the same boom as the aerovane; the bivane was removed in March 1965. During the planning stages of the dispersion study it was recognized that direct measurements of turbulence, preferably with a bivane, should be obtained. A location allowing adequate exposure was not found, however, and as a compromise the instrument was installed on the KMOX-TV tower. Because of exposure difficulties and instrumental problems, valid turbulence data from this bivane were not attained during any of the tracer experiments.

## SPECIAL OBSERVATIONS

Equipment for the special observations was operated only during tracer experiments. Data were used primarily in analyzing results of the tracer experiments.

### Surface Winds at the Tracer Release Sites

During all experiments at the tracer dissemination sites, wind speed and direction were measured with a fast-response system (Figure 19), with sensors about 7 feet above the surface. Disseminations at Forest Park were made at ground level. At the Knights of Columbus site disseminations were made at the building roof level. Wind speed was measured by the rotation of three light-weight plastic cups whose threshold starting speed is about 0.5 mile per hour; the wind speed is proportional to the speed of cup rotation and is a function of the time rate of light pulses due to the rotation of a light chopper (Beckman and Whitley, Inc. 1955). Wind direction was measured by the streamlined vane. Values for wind speed and direction were electrically transmitted and continuously recorded on a two-channel recorder. Range of wind speeds was 0 to 12, 0 to 30, or 0 to 60 miles per hour on one channel, and range of wind direction was 360 degrees of azimuth on the other channel. Speed of chart rotation was 3 inches per hour. Inspection of wind traces indicated the effects of the respective site locations. At the Knights of Columbus Building release site, the wind system indicated mechanical turbulence due to the structures in the immediate area. For the wind directions for which tracer disseminations were made at the Forest Park site, the air flowed over a slight rise before reaching the wind instrumentation (Figure 7) and probably diverged, principally in the vertical, beginning at the leeward edge of the rise; this wind system may have been sensing this topographically induced irregularity in the air-flow structure.

### Pilot Balloon Ascents

Winds aloft were measured during all experiments at the tracer dissemination site by single-theodolite observations of ceiling balloons. Observations were generally terminated after the balloons had ascended through the lowest 3000 feet of the atmosphere. At least two and as many as four ascensions were made per experiment.

### Tetroon Releases

During all daytime experiments and during most evening experiments, beginning with the second series, a tetroon was launched about 15 minutes after the beginning of tracer dissemination. Tetroons are tetrahedron-shaped super-pressure



Preceding page blank

balloons (Figure 20) ballasted to float at a level of constant density; they have been used extensively to estimate air trajectories (Angel and Pack, 1960 and Pack, 1962). In this study tetroon trajectories were used primarily to determine a "mean wind" during transit of tracer clouds across the sampling network. This was accomplished by tracking the signal transmitted from the 403 Mc transponder, attached to the tetroon (Figure 20), with the U. S. Weather Bureau weather radar (WSR-57) located at Lambert Field (Figure 6).

Free and Tethered Radiosonde Ascents

In all daytime experiments beginning with the second series and in most evening experiments, a free radiosonde was released from the roof of the Federal Building in downtown St. Louis located at the intersection of 12th and Market Streets (Figure 6); the radiosonde was followed until the signal emitted by its transmitter was lost. Tethered radiosondes reaching to 1000 feet above the roof were usually substituted during the last two series of evening experiments. Release height was 636 feet MSL and 171 feet above street level (465 feet MSL) for the free flights. Soundings began between 0 and 15 minutes before the beginning of tracer dissemination. Temperature and humidity profile data used to compute mixing depths and thermal stability over the city were obtained from these soundings.

A standard U. S. Weather Bureau 403 Mc radiosonde, ballasted to ascend at about 500 feet per minute, was used for the free radiosonde launches (Figure 21). A 26.675 Mc aspirated radiosonde built by personnel of the Air Resources Field Research Office in Cincinnati was used in all tethered radiosonde ascents. Except for the receiver, the receiving and recording equipment was the same as that used with the free radiosonde. A tethered radiosonde and aerokyte balloon are shown in Figure 22.

## OPERATING PROCEDURES FOR DIFFUSION EXPERIMENTS

The probability of running an experiment was estimated from forecasts prepared by the Weather Bureau. On tentatively suitable days a preliminary forecast to select a tracer dissemination site was made, followed by a more detailed forecast of expected wind direction variability. Sampling sites were selected on the basis of more detailed forecasts. Usually, the drum-pulsed samplers were placed to cover the uncertainty of the direction of the tracer cloud centerline; the Rotorod and membrane filter samplers were placed to bracket the expected cloud spread.

After the tracer release and sampling sites were selected, a tentative release time was set and the dissemination and sampling crews were briefed. All crews called in to the project director after they had finished setting out their equipment, usually no later than 1 hour before the tentative release time. Because of the uneven distribution of locations suitable for installation of drum-pulsed (sequential) samplers, compromises in the location of these samplers and of the total dosage samplers were often required. During the first three test series 30 to 35 samplers were installed; during later tests 40 to 50 samplers were used. Communications were maintained by two-way radios and telephone.

The final selection of sampling sites was based on a pilot balloon observation made at the tracer release site about 2 hours before the tentative dissemination time. If this observation indicated that the tentatively selected sampling locations would not adequately define the tracer cloud, a revised sampling network and new tentative release time were established.

A tracer release rate was then calculated on the basis of expected wind speed. Compromises in the calculations usually were required, greater weight being given to producing sufficient dosage at distant arcs than to avoiding an overdose at near arcs.

Expected travel times to the various arcs also were computed on the basis of the forecast and observed wind speeds. It was desirable that each sampler operate only during passage of the entire tracer cloud so that the collection of material that might obscure fluorescent particles would be minimal. For daytime experiments, sampling duration was calculated by assuming that the initial particles would travel at twice the speed of the mean wind through the convectively mixed layer (Pooler, 1964) and that the last particles would travel at 1/2 to 2/3 the speed of this wind. For the evening experiments during which more pronounced vertical wind-speed shear usually existed, it was assumed that the initial particles would travel at the speed of the winds above the pronounced shear layer (usually at or above 1000 feet); the last particles were assumed to travel at 1/2

the speed of the surface wind until reaching the nearest sampling arc and, thereafter, at 1/2 the speed of the lowest winds recorded on the initial pilot balloon ascents until reaching the most distant arc.

The times required to run an experiment varied considerably. In the longest test, during which all delaying factors operated together, more than 9 hours elapsed from the time of original sampler layout until the last sampling crew checked in. During the last two series, after the crews had become thoroughly familiar with their duties and the locations of their assigned stations and when no delays occurred, several tests required less than 5 hours.

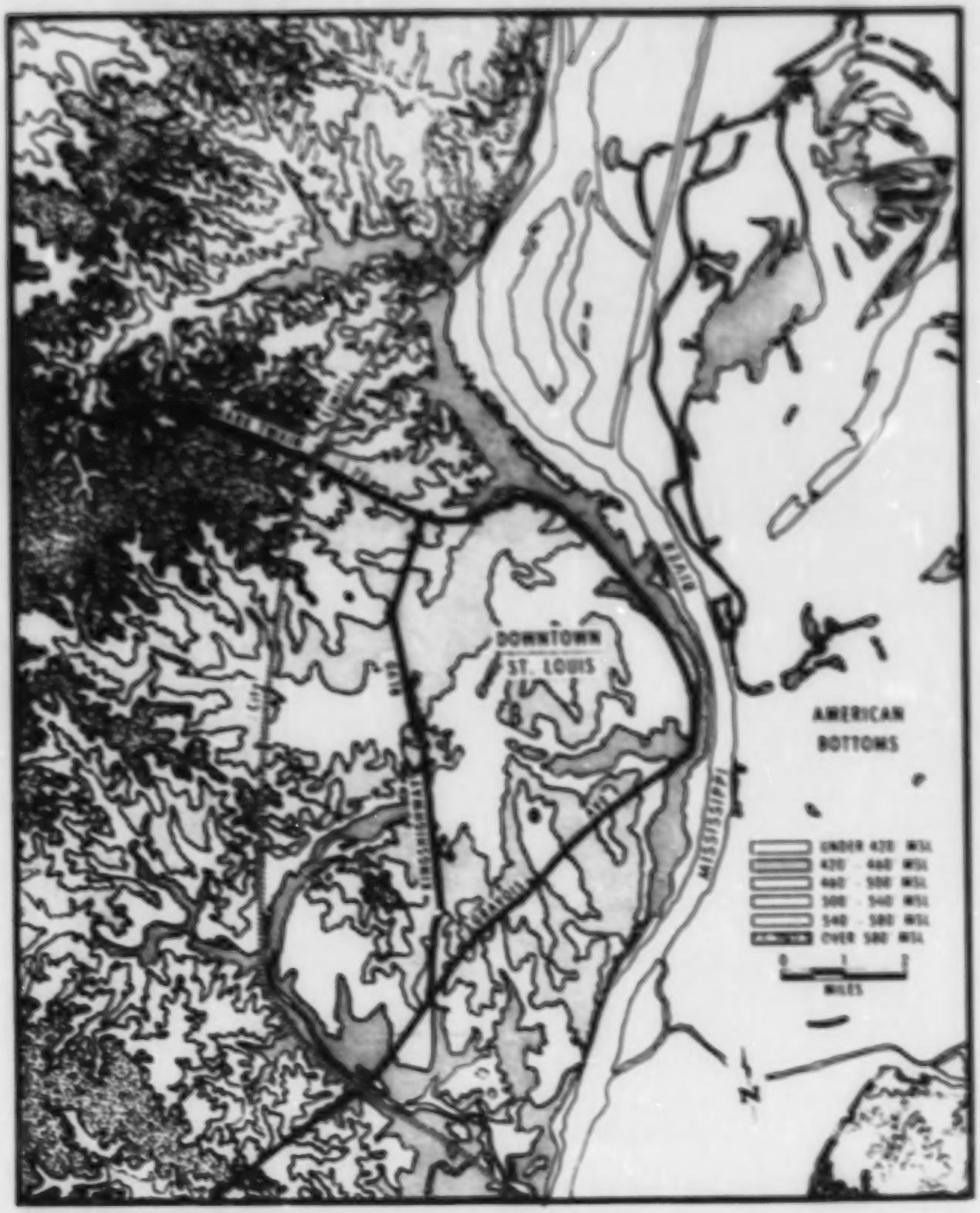



Figure 1. Topographic map of the St. Louis area.

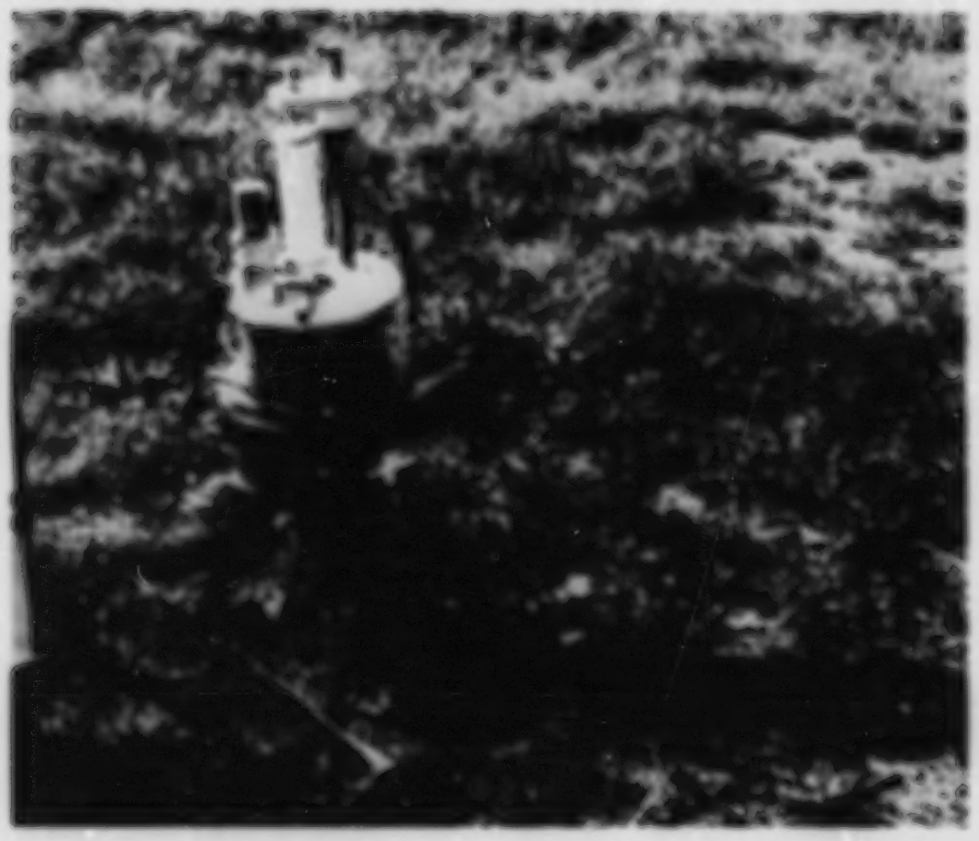


Figure 2. Fluorescent particle dissemination generator.

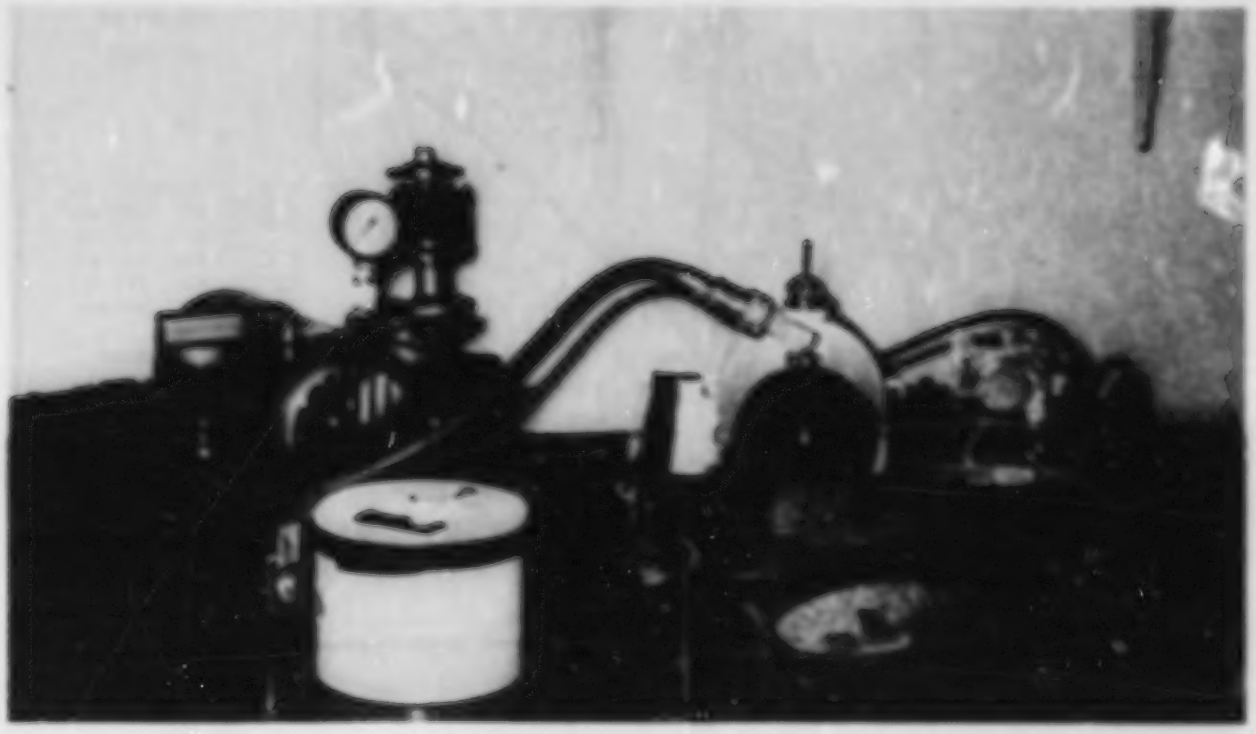


Figure 3. Drum-pulsed sampler.

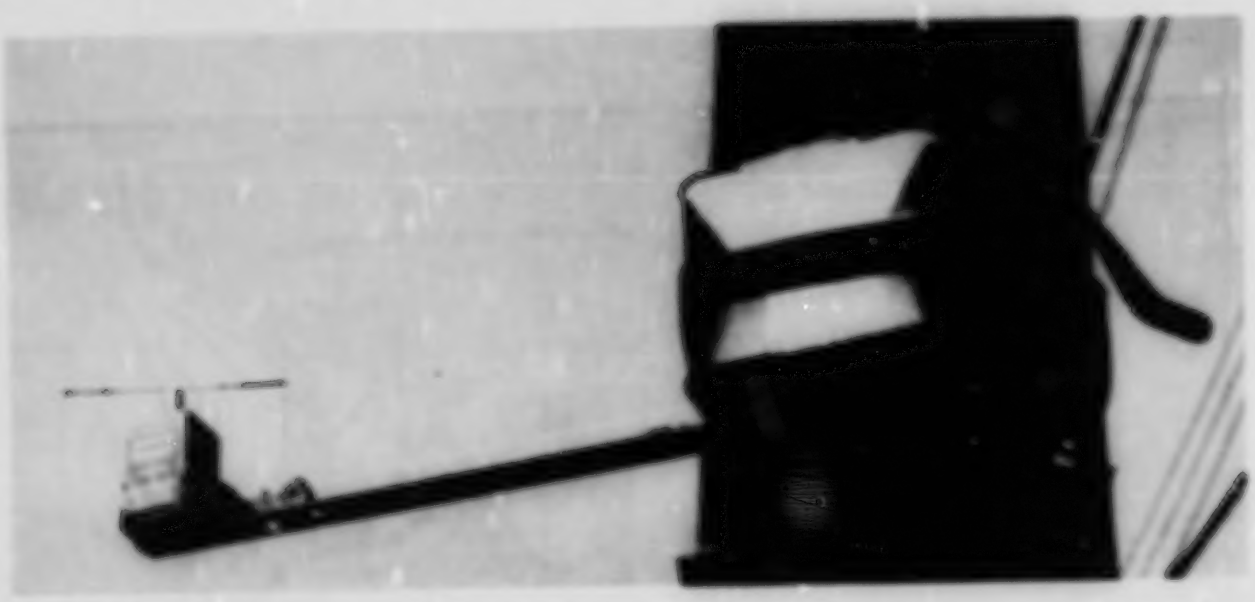


Figure 4. Rotorod sampler.

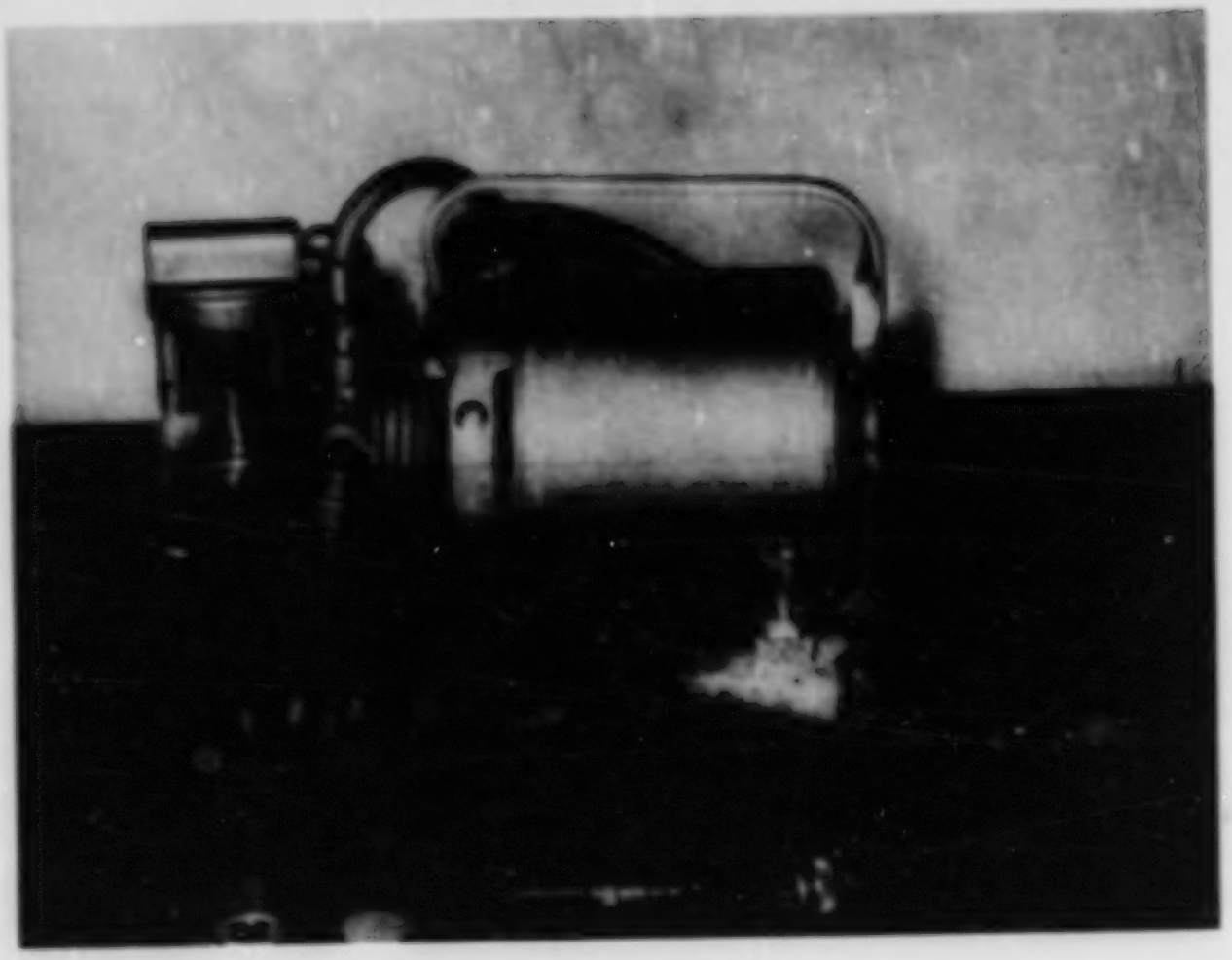
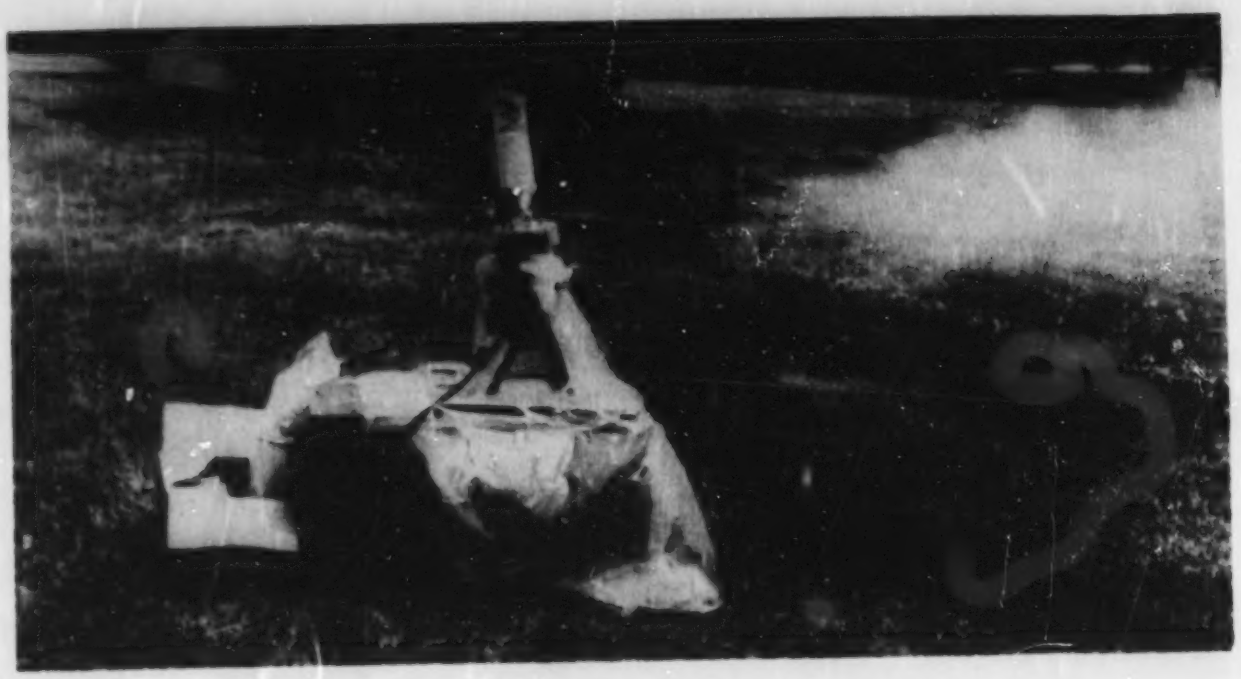


Figure 5. Membrane filter sampler.

Figure 6. Generalized land-usage map of St. Louis area.

(a). View toward McDonnell Planetarium.



(b). View in direction of dissemination.

Figure 7. Forest Park dissemination site.

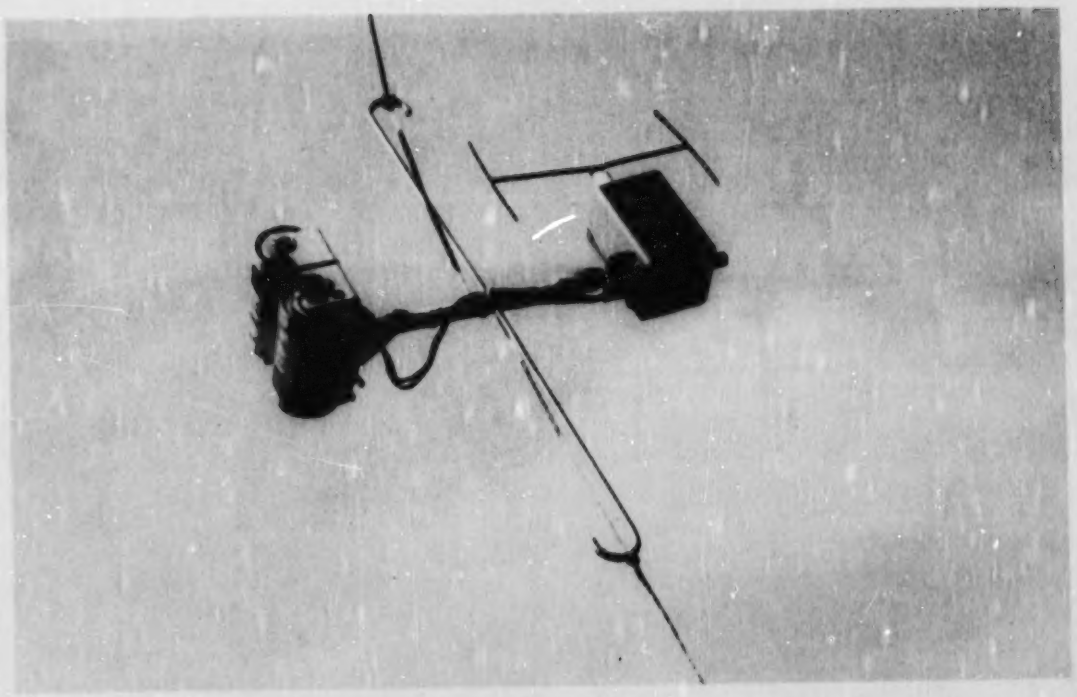


Figure 8. Rotorod sampler attached to tethering line.

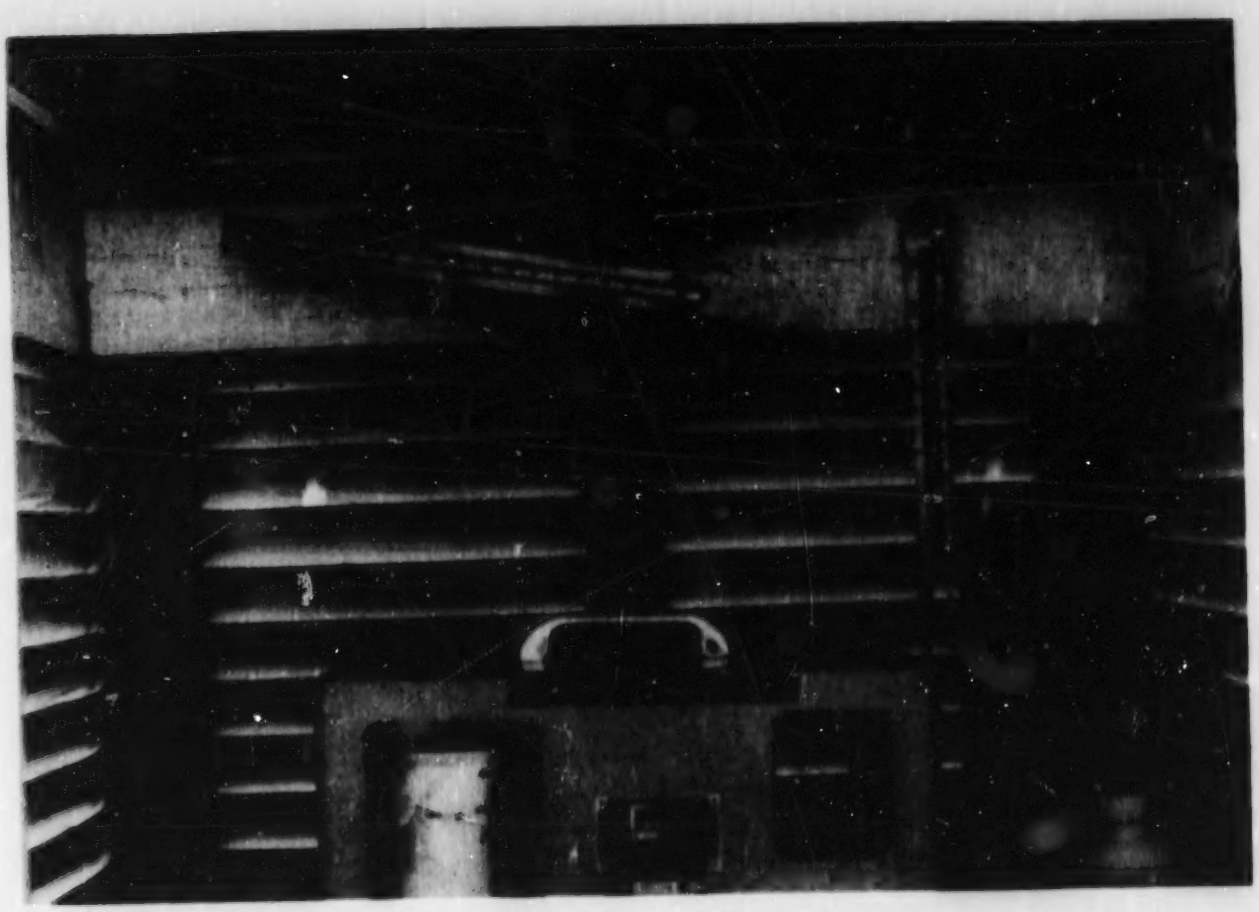


Figure 9. Hygrothermograph, maximum and minimum thermometers, and psychrometer in louvered Stevenson shelter.

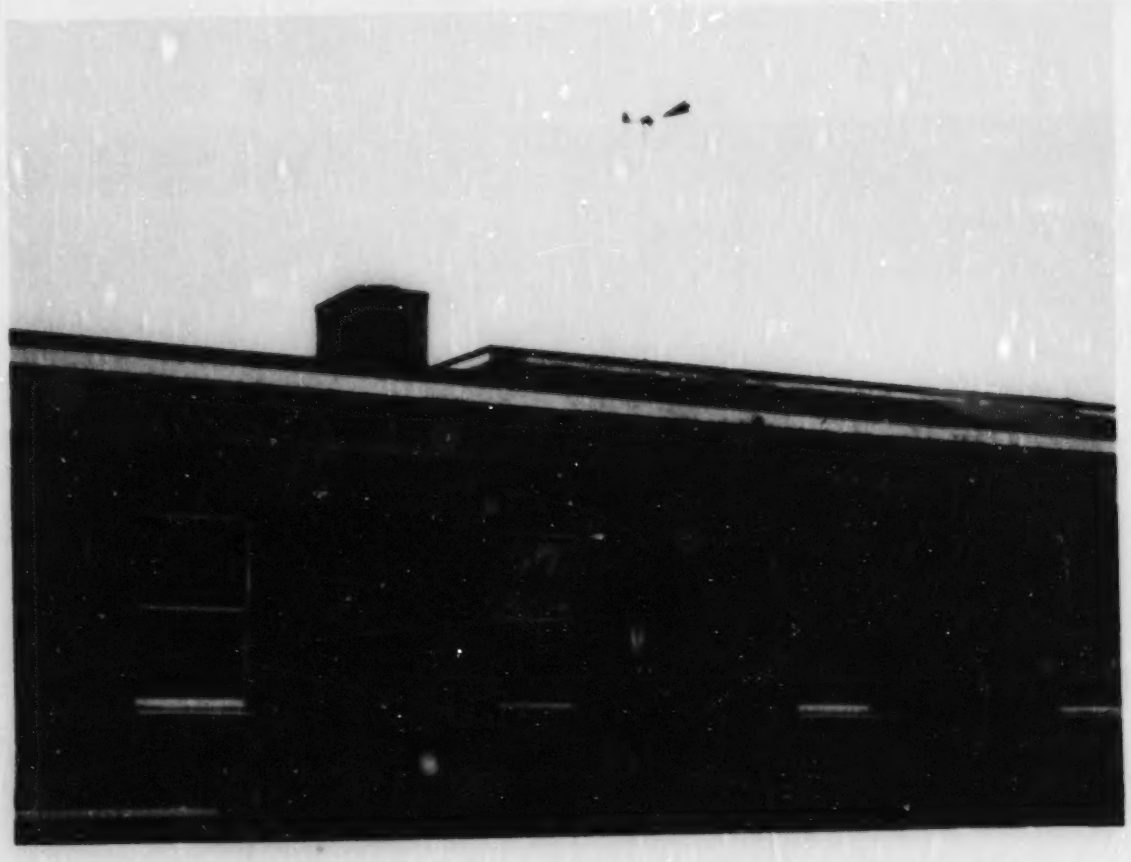


Figure 10. Aerovane on roof at Lindbergh High School.

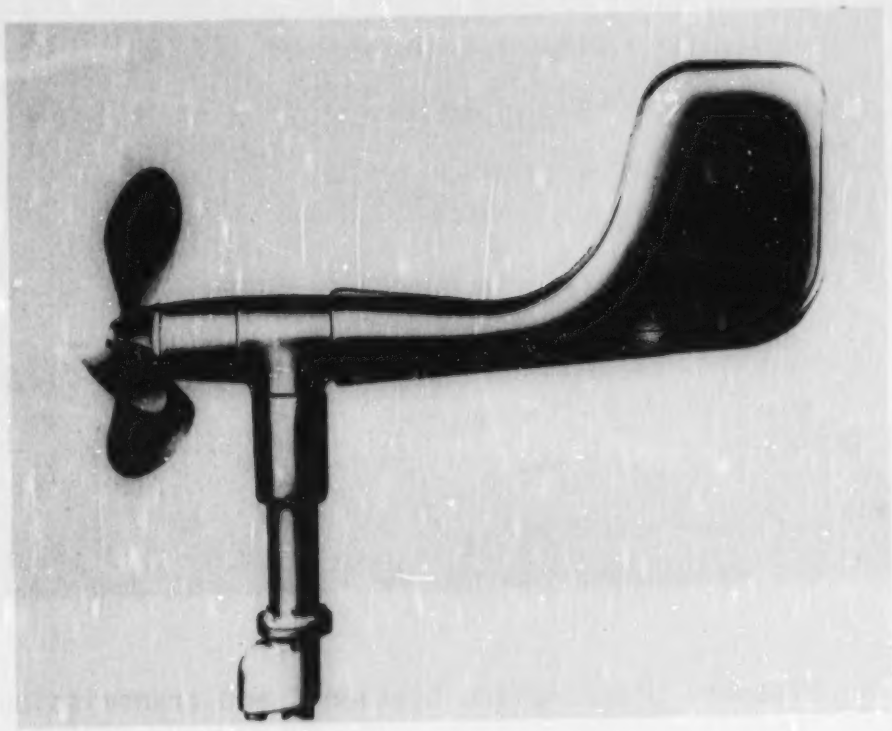


Figure 11. Aerovane wind speed and direction sensor.

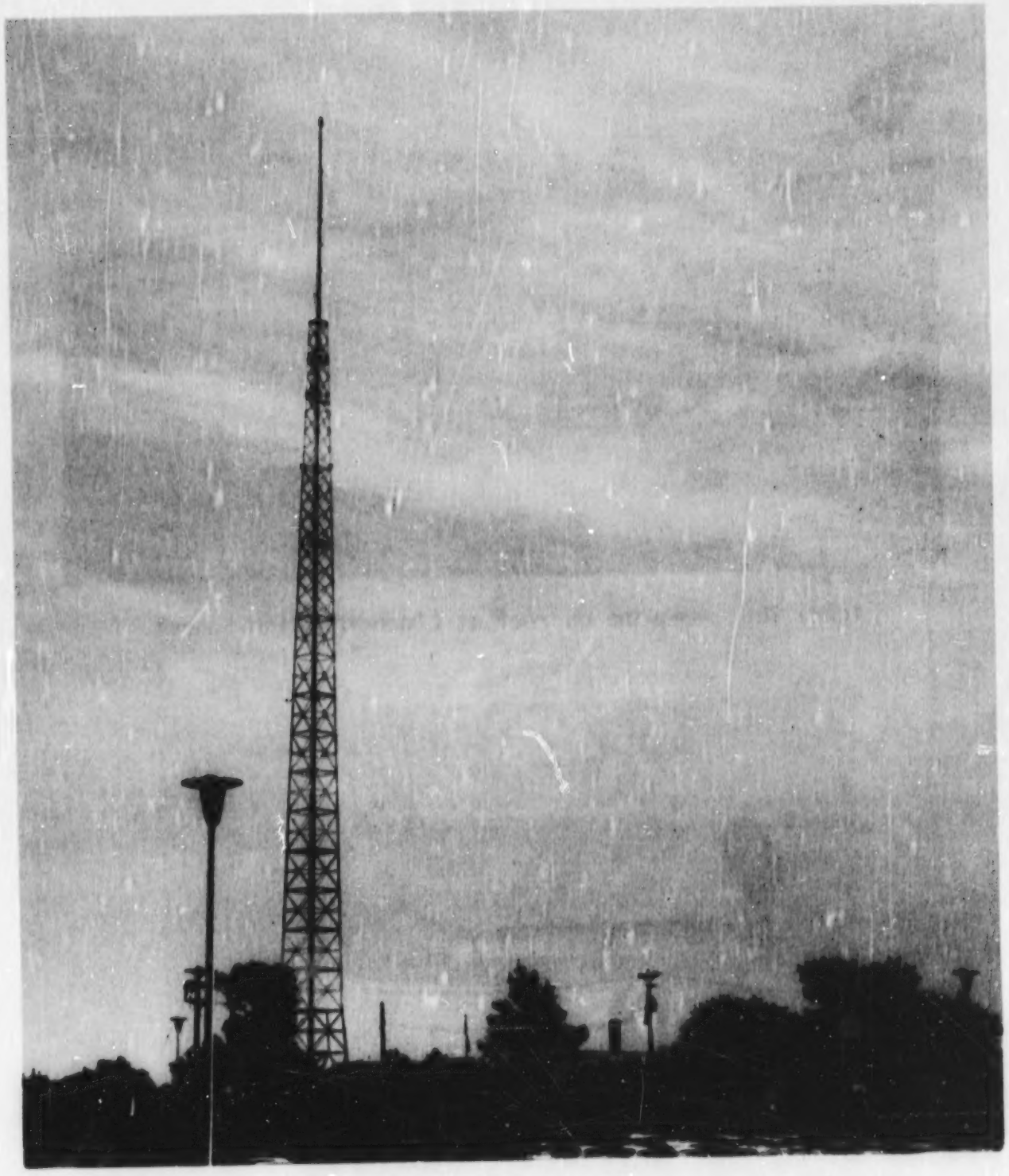


Figure 12. Missouri State Police Station C and transmission tower.

Figure 13. Aerovane on roof of Hazelwood High School.

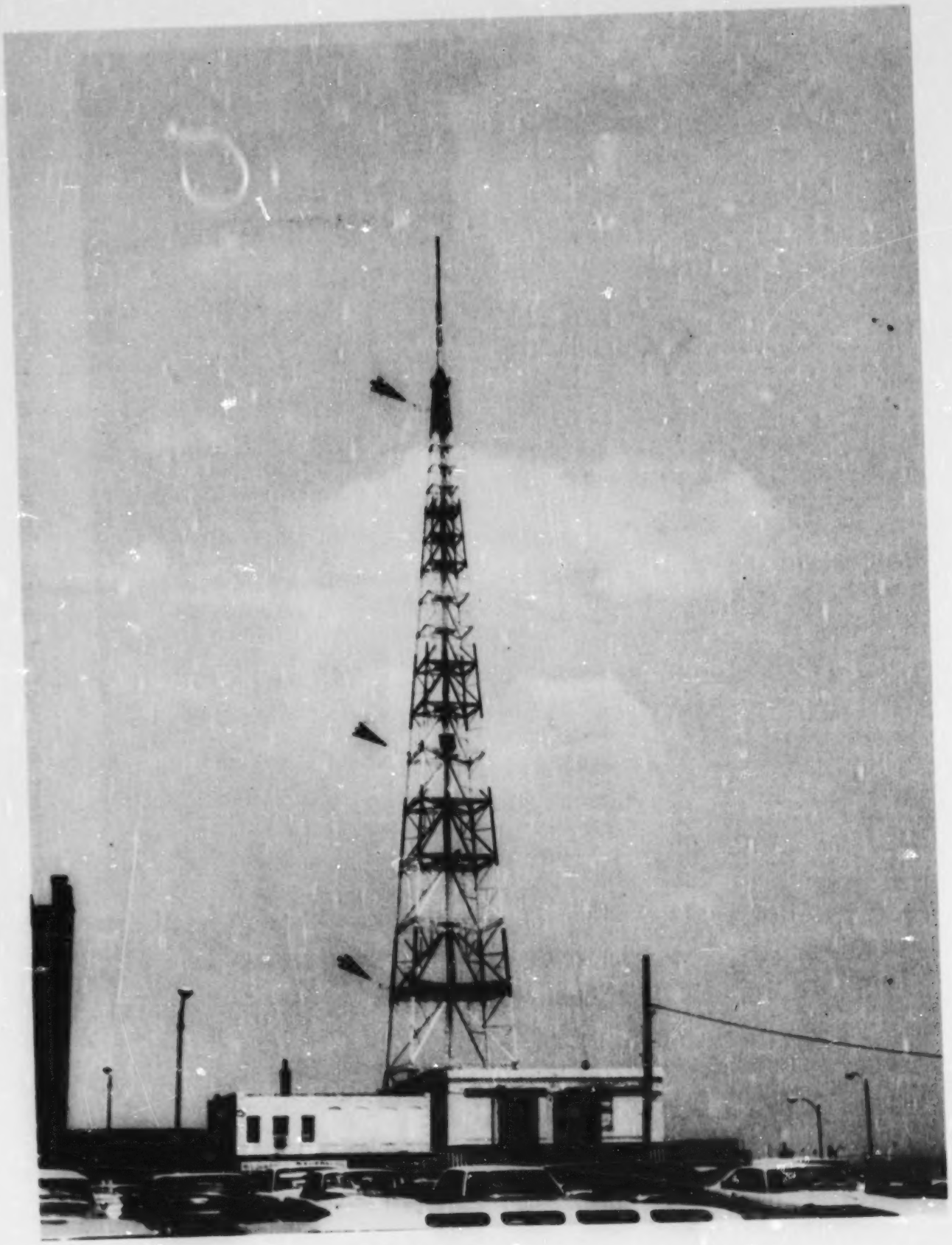


Figure 14. KMOX-TV tower.

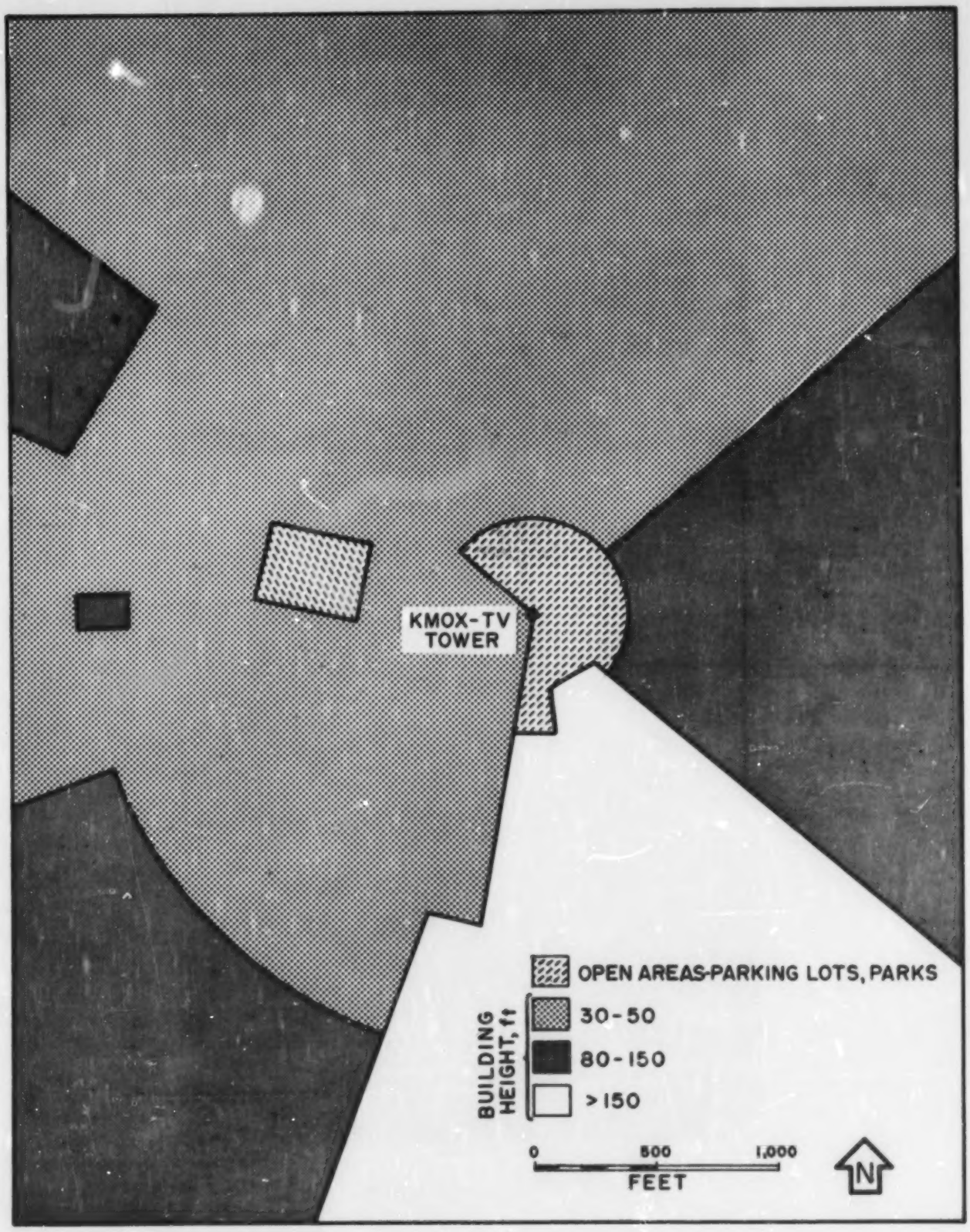
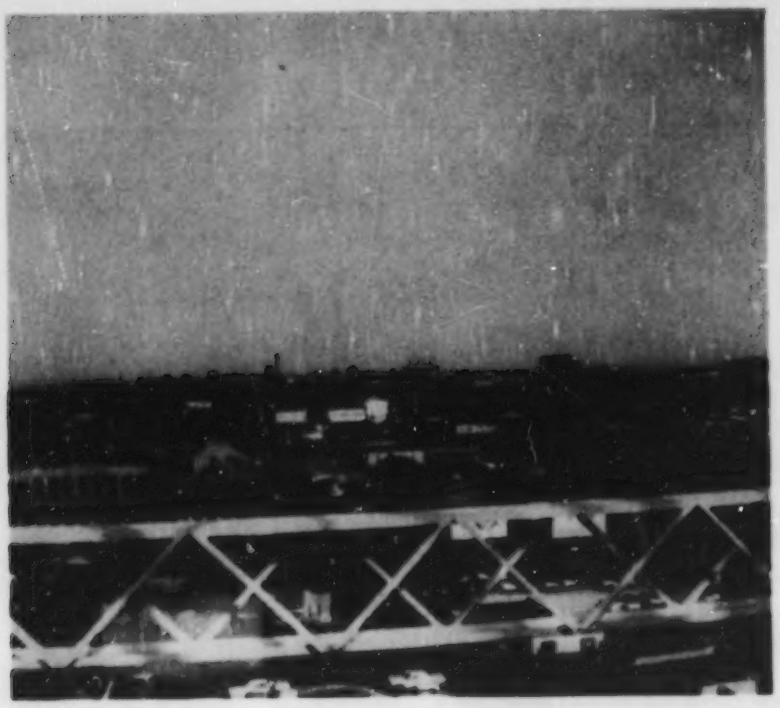



Figure 15. Land usage in vicinity of KMOX-TV tower.



(a). Looking North.

(b). Looking South.

Figure 16. St. Louis as seen from 125-foot level of KMOX-TV tower.

(c). Looking East.

(d). Looking West.

Figure 16 (Cont.) St. Louis as seen from 125-foot level of KMOX-TV tower.

Figure 17. Leeds and Northrup Thermohm unit.

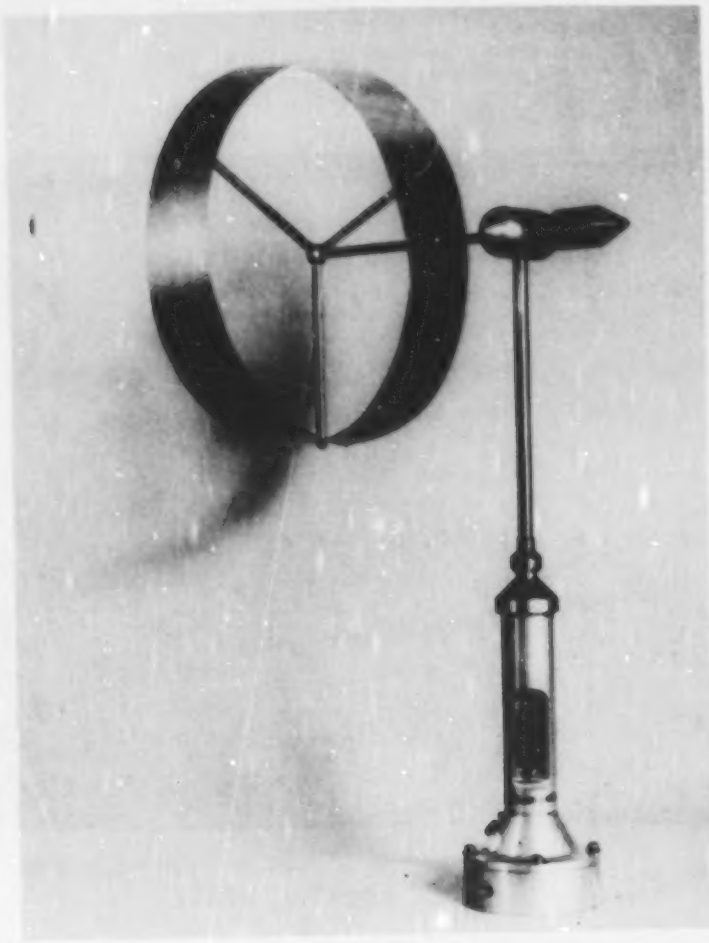


Figure 18. Annular fin bivane.

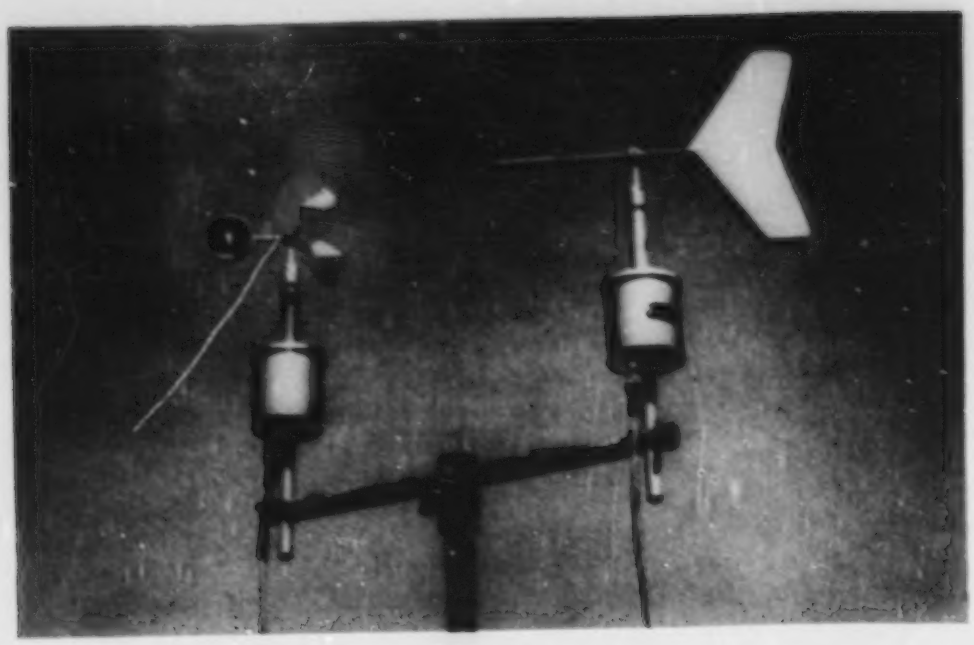


Figure 19. Beckman and Whitley wind speed and direction sensors.

Figure 20. Tetroon and attached transponder.

Figure 21. Free radiosonde ascent.

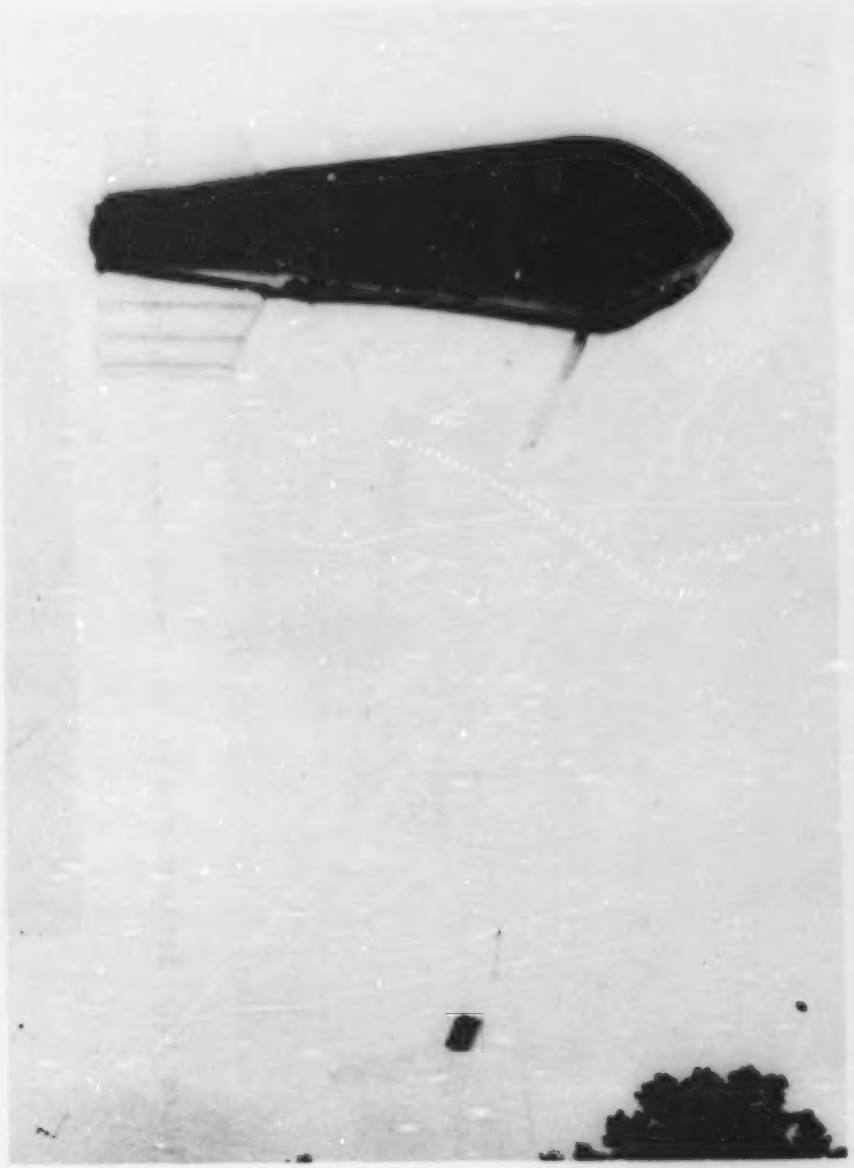


Figure 22. Tethered radiosonde ascent.

# PART 2 - DATA TABULATIONS

## INTRODUCTION

Part II presents in tabulated form the data collected in the St. Louis Dispersion Study. Supplementary meteorological data that might assist in analysis of results of the tracer experiments also are included. These data consist of tabulations of surface weather observations taken at the WBAS, Lambert Field in St. Louis; tabulations of rawinsonde soundings at Columbia, Missouri, and Peoria, Illinois; and surface and 500-millibar charts. An introduction to each set of tables describes the data and the format and gives other pertinent information.

A summary page for each experiment lists the available sampling and meteorological data and details of the dissemination; the summary also presents commentary on the sampling and on the existing synoptic situation.

As an aid in describing the Aerovane data and as a potential aid in analyzing the results of the tracer experiments, the highest, third highest, and fifth highest wind-direction and wind-speed ranges over 30-minute intervals were computed. The highest range was determined as the maximum value of direction or speed minus the minimum value; the third highest range as the third highest value minus the third lowest value, and the fifth highest range as the fifth highest value minus the fifth lowest value, over an interval.

All data are presented in the units measured. The adoption of a single, consistent set of units would have allowed more direct utilization of the reported data. For some measurements, however, a sacrifice of reported accuracy would be required to convert the units; for other measurements, a degree of accuracy better than that obtained in the measurements would be implied if conversions were strictly made.

During all experiments an air sample was taken approximately 1 mile upwind of the release site. The general location of the sample was designated by the project meteorologist. These samples were analyzed and found to contain no significant background count of FP material.

## EXPERIMENT SUMMARY SHEETS

A summary sheet is presented for each of 42 experiments. Experiment One was a test run; no fluorescent particles were released. Sampling data collected during this experiment are presented in the tables to indicate background fluorescent particles in the St. Louis area.

Details of the tracer dissemination, including a list of the dissemination feed-voltage readings, are presented first. Because feed-voltage was at least qualitatively related to the rate of tracer emission, changes in emission rate are reflected by variations in this voltage; feed-voltage readings were normally made at 15-minute intervals during dissemination.

The types of fluorescent particle dosage data and meteorological data available for the experiment are listed next; incomplete data are noted. Any necessary commentary concerning dissemination and sampling follows. Whenever possible, comments concerning specific samplers are generalized, details being given as footnotes to the tables.

The final section of each summary sheet consists of a brief description of the existing synoptic situation and the surface and 500-millibar charts from the Daily Weather Map (U. S. Weather Bureau) nearest the time of the experiment.



Preceding page blank

# Table 1. EXPERIMENT SUMMARY SHEETS

Experiment Two

27 May 1963
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 1410 to 1440 CST

Dissemination: 2102.0 gm
Lot Size No. 1320

## Disseminator Feed Voltage Readings

9.0 v (1415 CST); 7.5 v (1426 CST); 8.5 v (1438 CST)

## Sampling Data

Total Surface Dosages

## Meteorological Data

Pilot Balloons
CBI and PIA Rawinsondes
Dissemination Site Winds

WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds (except middle level)

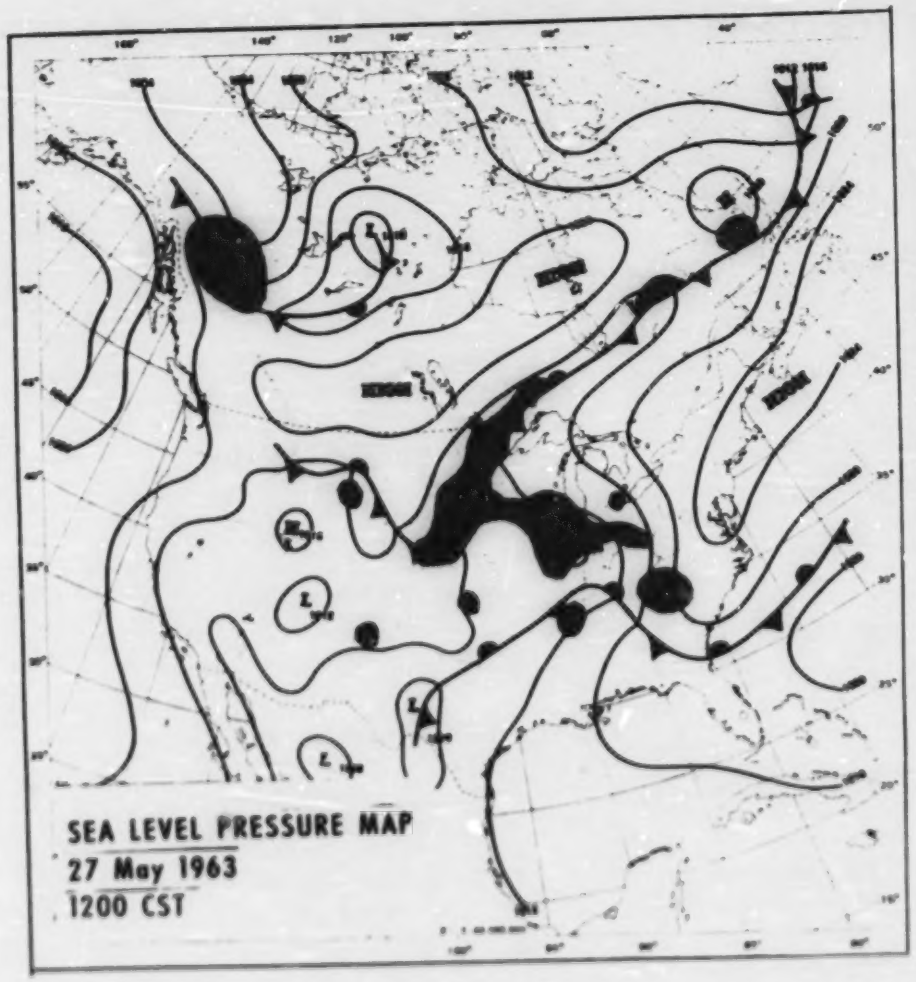
## Commentary

None

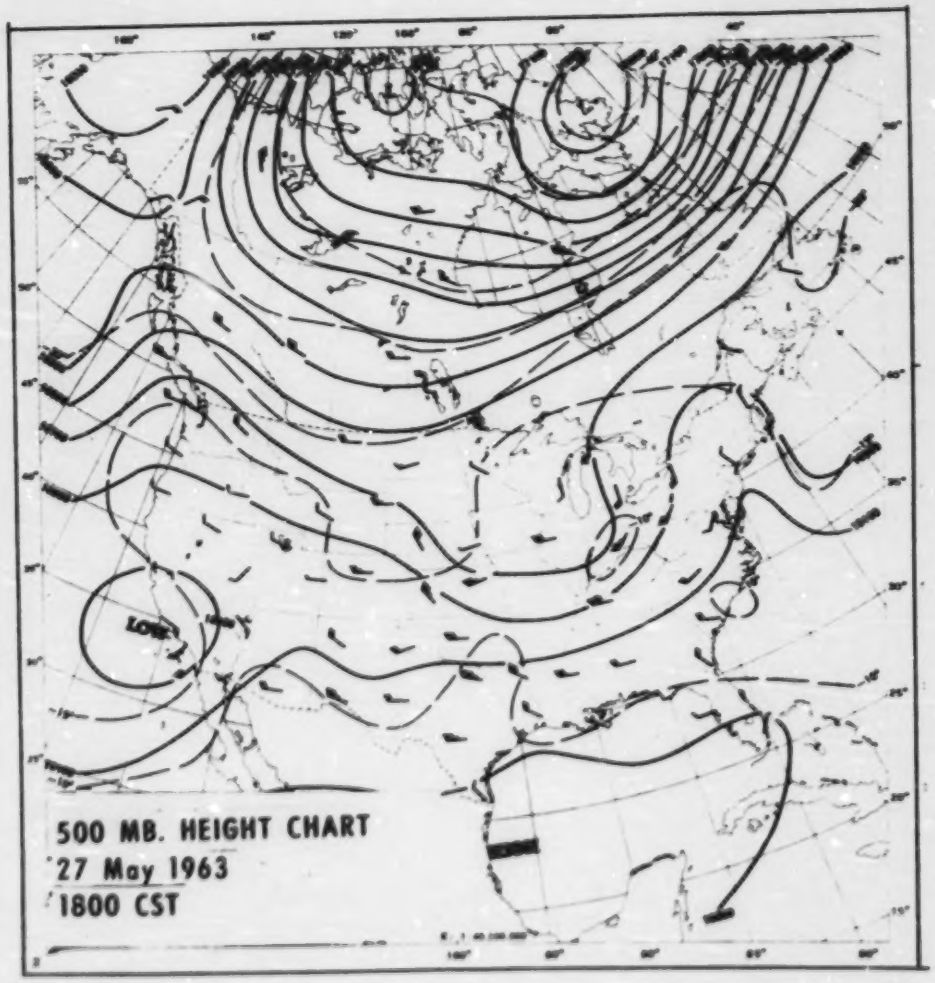
## Synoptic Situation

A cold front passed through the St. Louis area several hours prior to the beginning of the experiment, causing gradually clearing skies and westerly to northwesterly winds.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



SEA LEVEL PRESSURE MAP
27 May 1963
1200 CST




500 MB. HEIGHT CHART
27 May 1963
1800 CST

## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Three

28 May 1963
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 1000 to 1100 CST

Dissemination: 3786.9 gm
Lot Size No. 1320

Disseminator Feed Voltage Readings

7 v (entire dissemination)

Sampling Data

Total Surface Dosage

Sequential Surface Dosages

Meteorological Data

Pilot Balloons
PIA and CBI Rawinsondes
Dissemination Site Winds
WBAS, Lambert Field

Outlying Station Winds
KMOX Tower Winds (except lower, middle level)
Vertical Temperature Gradients on KMOX Tower

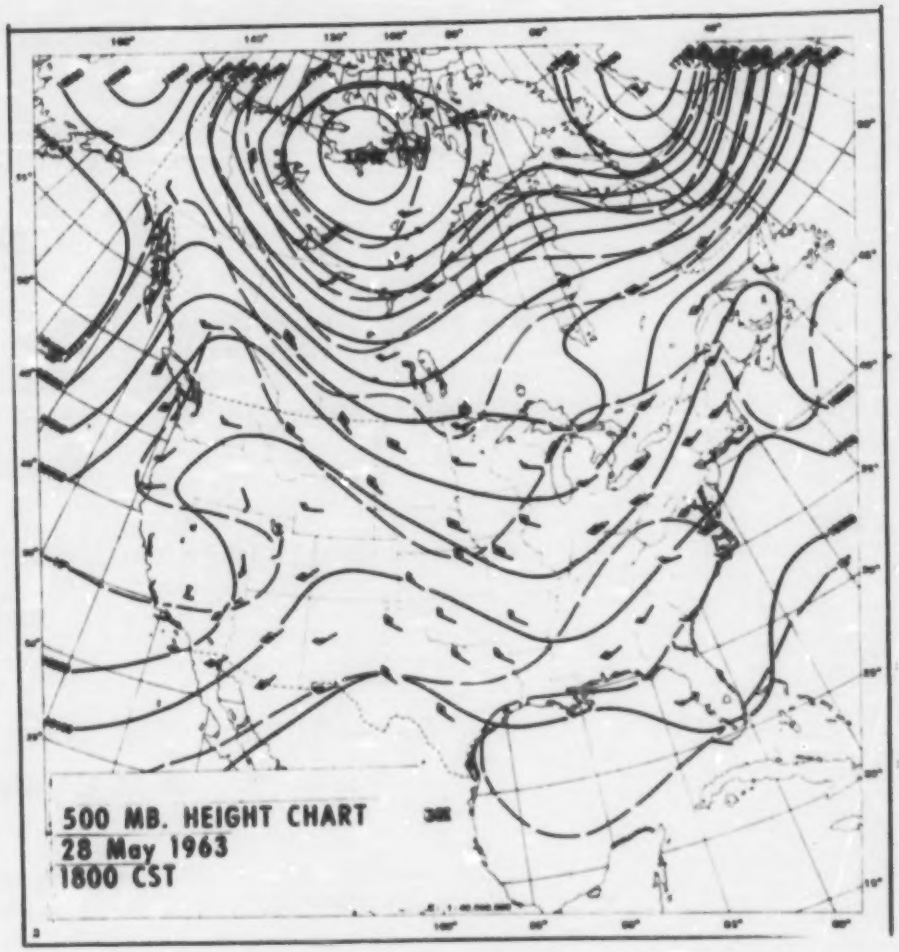
Commentary

None

Synoptic Situation

Weak cold air advection and brisk, steady northwesterly winds persisted over the St. Louis area. A cold front moved past the area earlier and was located on the Illinois-Kentucky border at 1200 CST.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

### Experiment Four

19 July 1963
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 1130 to 1230 CST

Dissemination: 5785.4 gm
Lot Size No. 1339-4

### Disseminator Feed Voltage Readings

13.0 v (1130, 1140 CST); 11.0 v (1200 CST); 9.5 v (1210 CST); 12.0 v (1220 CST);
15.0 v (1230 CST)

### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde

Dissemination Site Winds (speed missing)
WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds (except middle level)

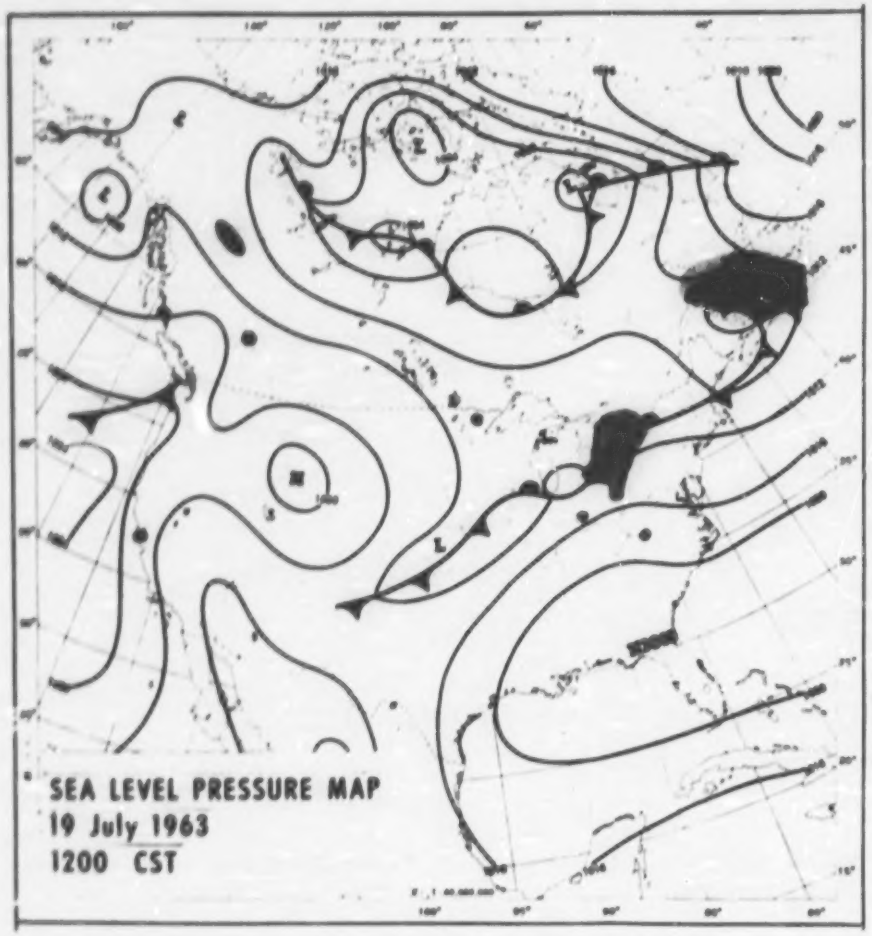
### Commentary

Several samplers on the middle sampling arc apparently were not turned on until after the initial elements of the tracer cloud had reached them; however, significant loss of dosage was not considered to have occurred.

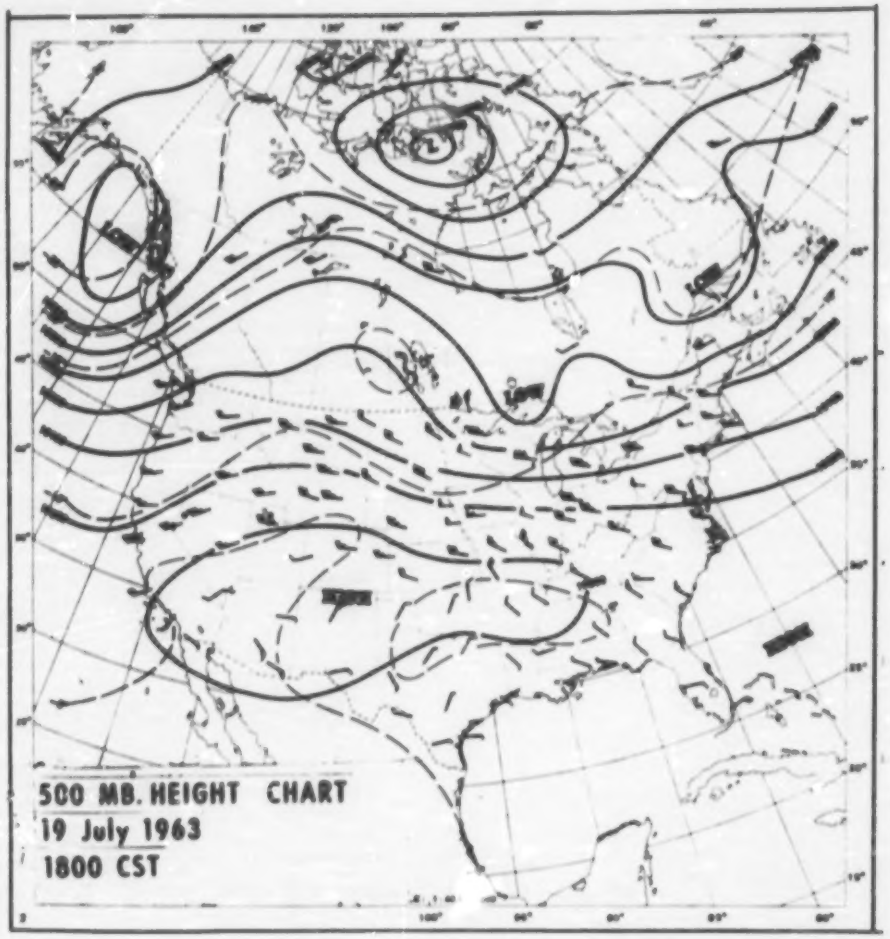
### Synoptic Situation

Strong, gusty southwesterly winds and clearing skies occurred as St. Louis was in the sector between an advancing cold front and a receding warm front.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



SEA LEVEL PRESSURE MAP
19 July 1963
1200 CST



500 MB. HEIGHT CHART
19 July 1963
1800 CST

## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

### Experiment Five

22 July 1963
Sampling Arcs: 4, 5, 6

Dissemination Site: K. of C. Building
Dissemination from 1104 to 1204 CST

Dissemination: 5143.5 gm
Lot Size No. 1339-4

#### Disseminator Feed Voltage Readings

9.5 v (1104 CST); 9.0 v (1133 CST); 11.0 v (1144 CST); 10.5 v (1150 CST)

#### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

#### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde

WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds (except middle level)

#### Commentary

NONE

#### Synoptic Situation

Partly cloudy skies and moderate southeasterly winds persisted from a high pressure area centered over Tennessee. A weak stationary front lay to the west over the Plains states.

Table 1 (continued). E)PERIMENT SUMMARY SHEETS

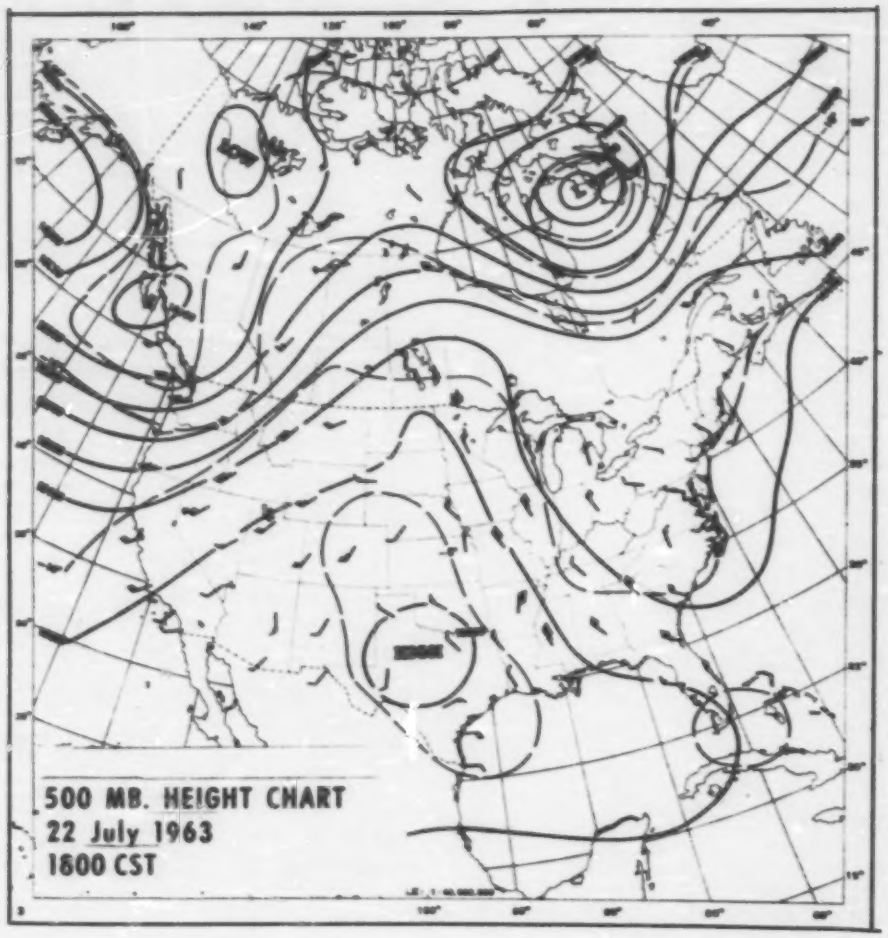


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Six

23 July 1963
Sampling Arcs: 4, 5, 6

Dissemination Site: K. of C. Building
Dissemination from 1130 to 1230 CST

Dissemination: 7308.3 gm
Lot Size No. 1339-4

Disseminator Feed Voltage Readings

13.5 v (1130 CST); 13.7 v (1140 CST); 8.5 v (1310 CST); 12.0 v (1220 CST)

Sampling Data

Total Surface Dosages

Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde

WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds (except middle level)

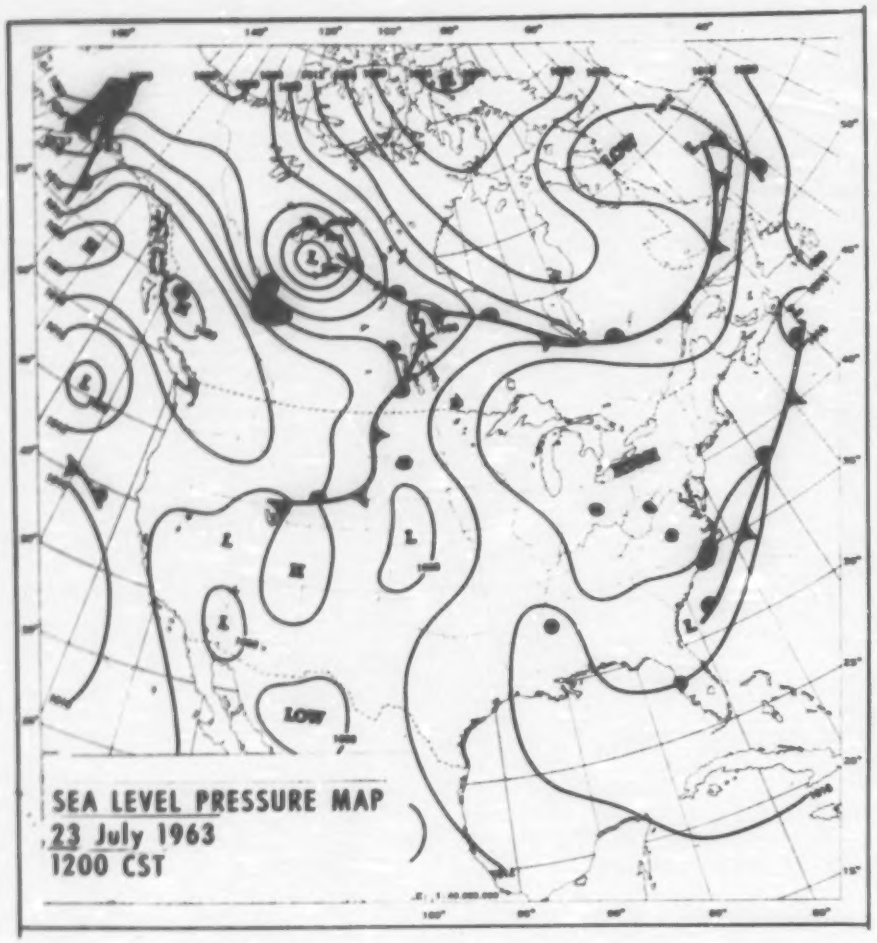
Commentary

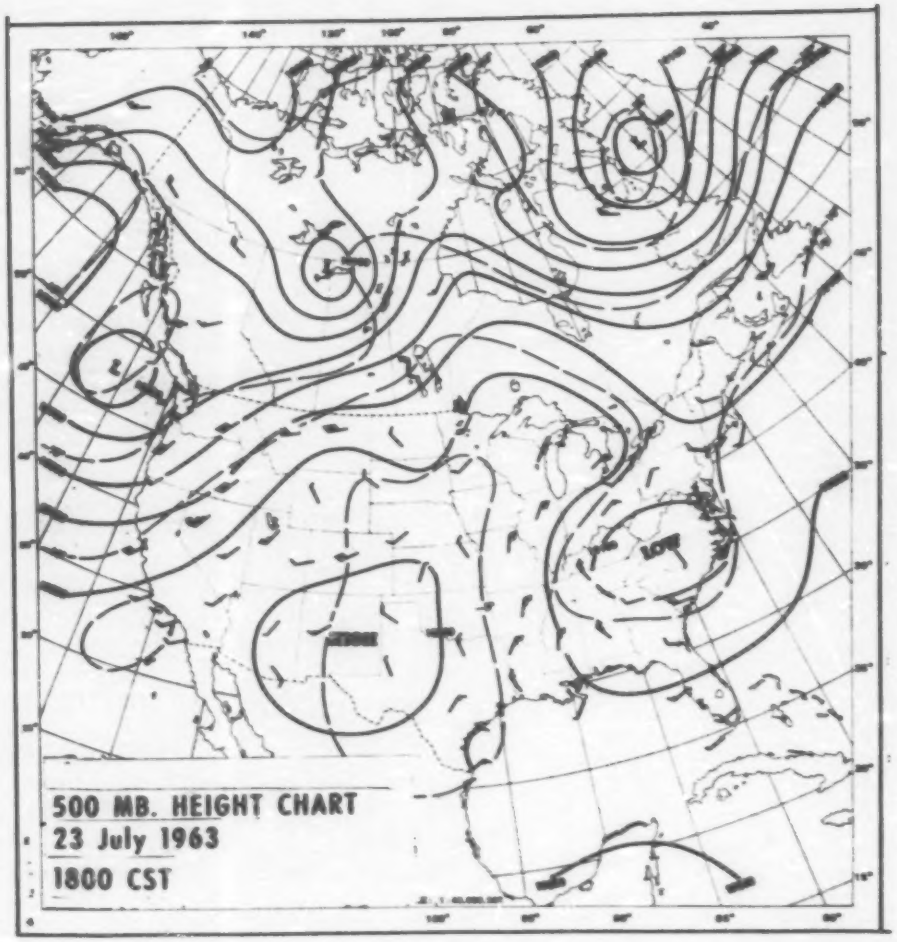
Coverage of the tracer cloud by the sampling arcs is skimpy.

Synoptic Situation

The St. Louis area weather was under the influence of a high pressure cell centered over Pennsylvania. Clear skies and moderate southerly winds prevailed.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS .



# Table 1 (continued). EXPERIMENT SUMMARY SHEETS

## Experiment Seven

25 July 1963
Sampling Arcs: 4, 5, 6

Dissemination Site: K. of C. Building
Dissemination from 1040 to 1140 CST

Dissemination: 6681.9 gm
Lot Size No. 1339-4

### Disseminator Feed Voltage Readings

14.0 v (1040, 1050 CST); 13.5 v (1100 CST); 11.5 v (1110 CST); 9.5 v (1115 CST); 9.0 v (1130 CST)

### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde

WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds (except middle level)

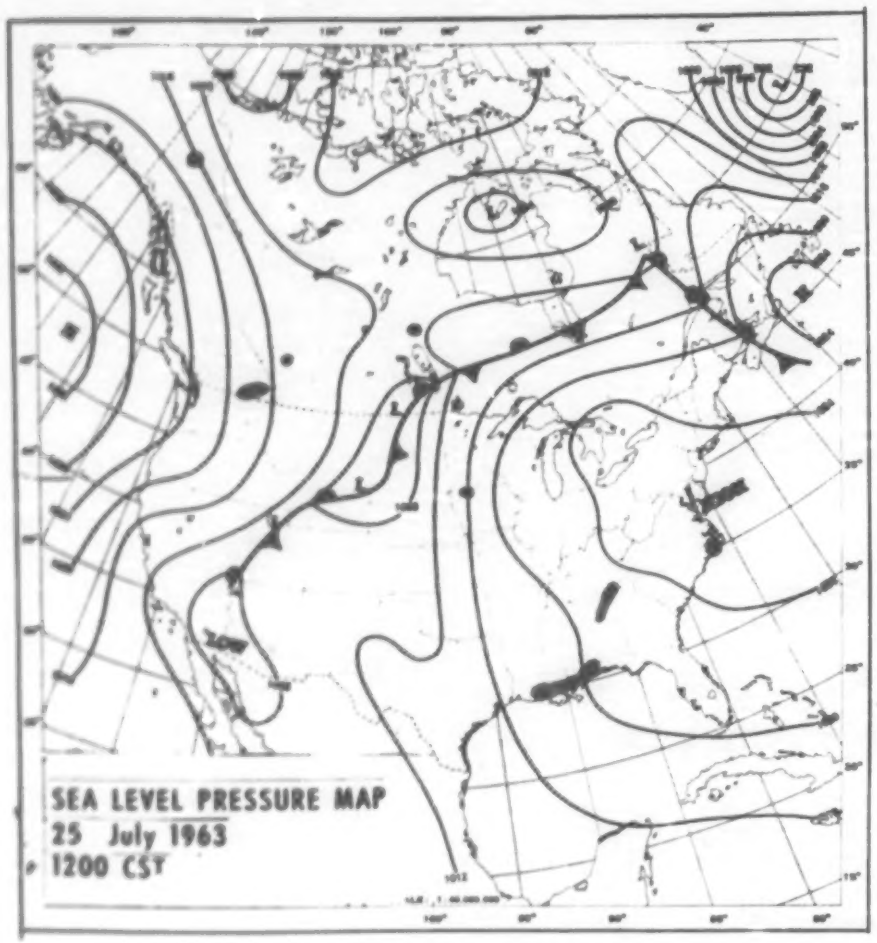
### Commentary

None

### Synoptic Situation

Moderate southeasterly winds and clear skies existed in advance of a cold front centered over the upper Plains.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



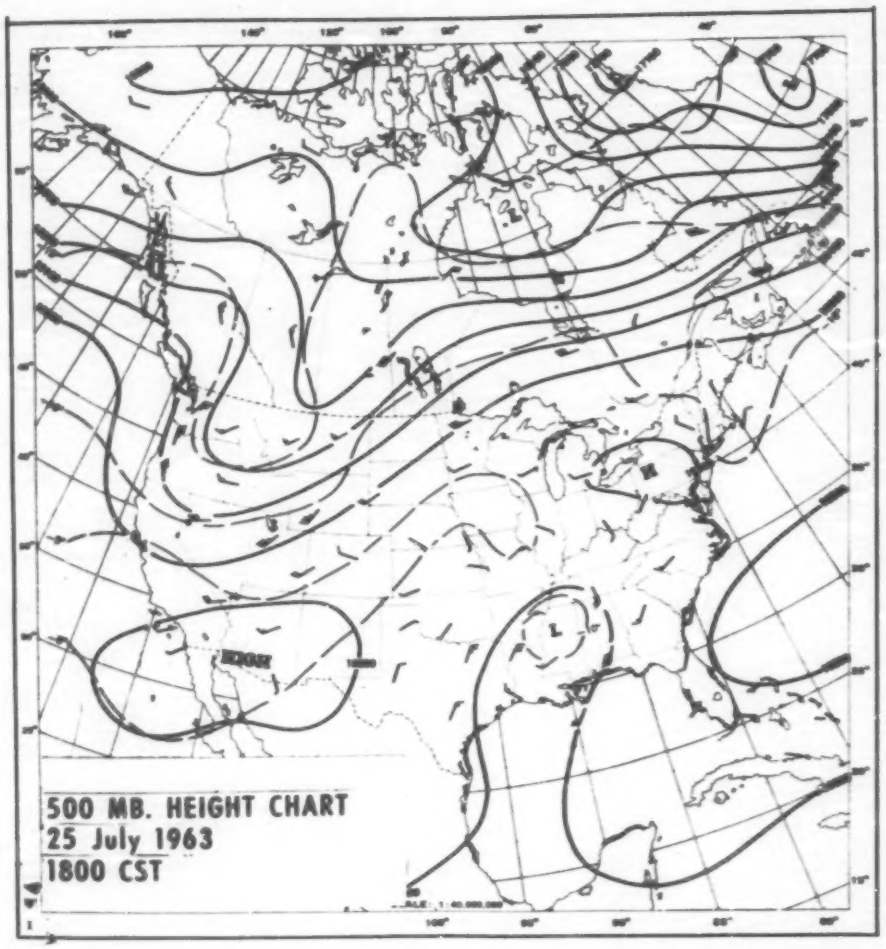



Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Eight

26 July 1963
Sampling Arcs: 4, 5, 6

Dissemination Site: K. of C. Building
Dissemination from 1045 to 1145 CST

Dissemination: 8871.9 gm
Lot Size No. 1339-4

Disseminator Feed Voltage Readings

18.0 v (1045 CST); 15.0 v (1105 CST); 12.0 v (1110, 1125, 1140 CST)

Sampling Data

Total Surface Dosages

Sequential Surface Dosages

Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde

Dissemination Site Winds (Direction missing)
WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds (except middle level)

Commentary

None.

Synoptic Situation

Moderate to strong south southeasterly winds and partly cloudy skies persisted in advance of a cold front centered over Kansas and Nebraska.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

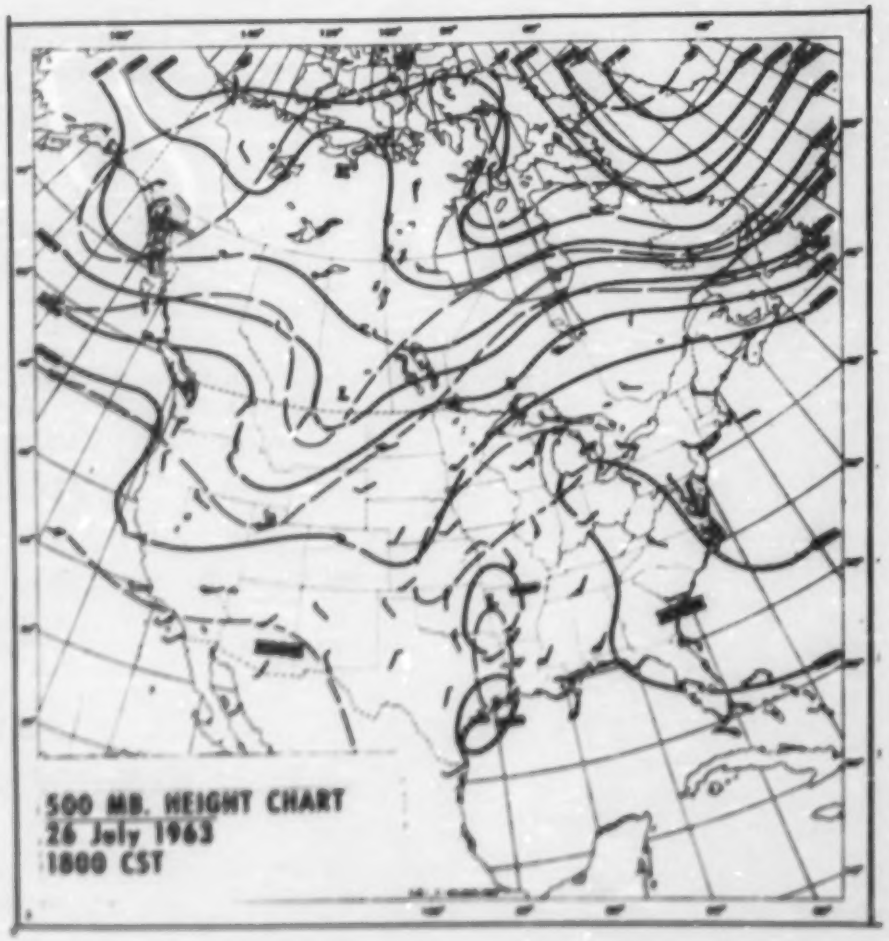


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Nine

12 September 1963
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 1115 to 1215 CST

Dissemination: 9082.2 gm
Lot Size No. 1339-1

Disseminator Feed Voltage Readings

19.0 v (1118, 1128 CST); 15.0 v (1128, 1154, 1215 CST) *

Sampling Data

Total Surface Dosages

Sequential Surface Dosages

Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde
Dissemination Site Winds (Speed missing)

WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds (except middle level)

Commentary

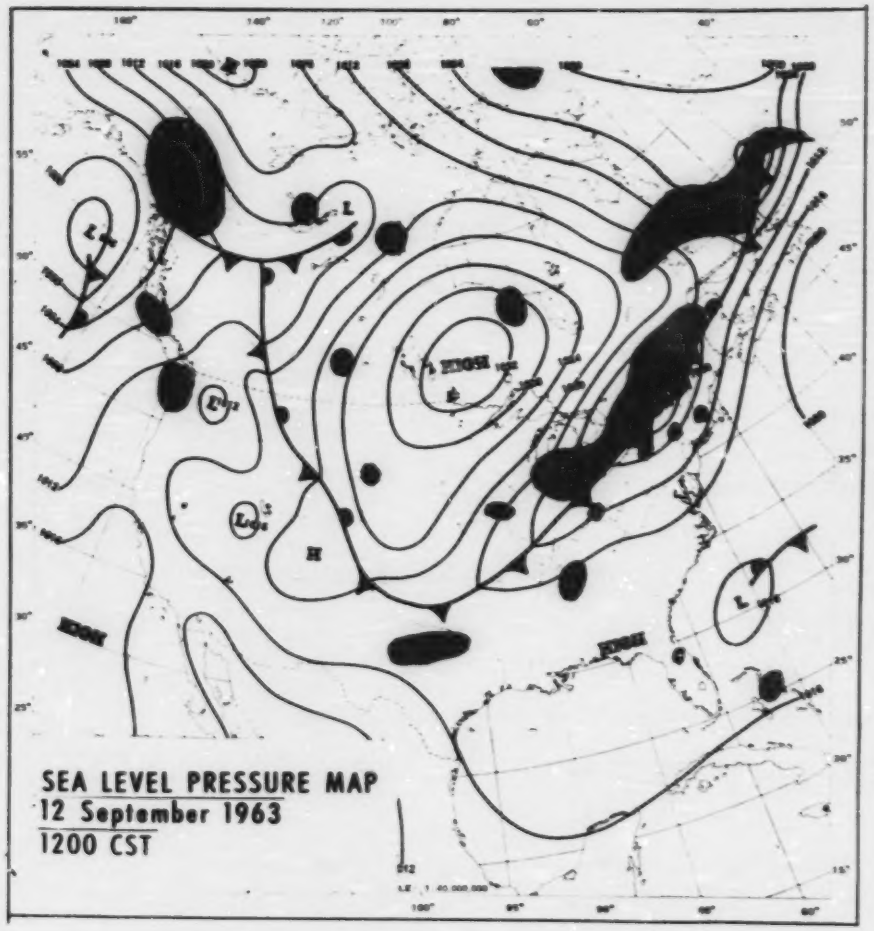
None

Synoptic Situation

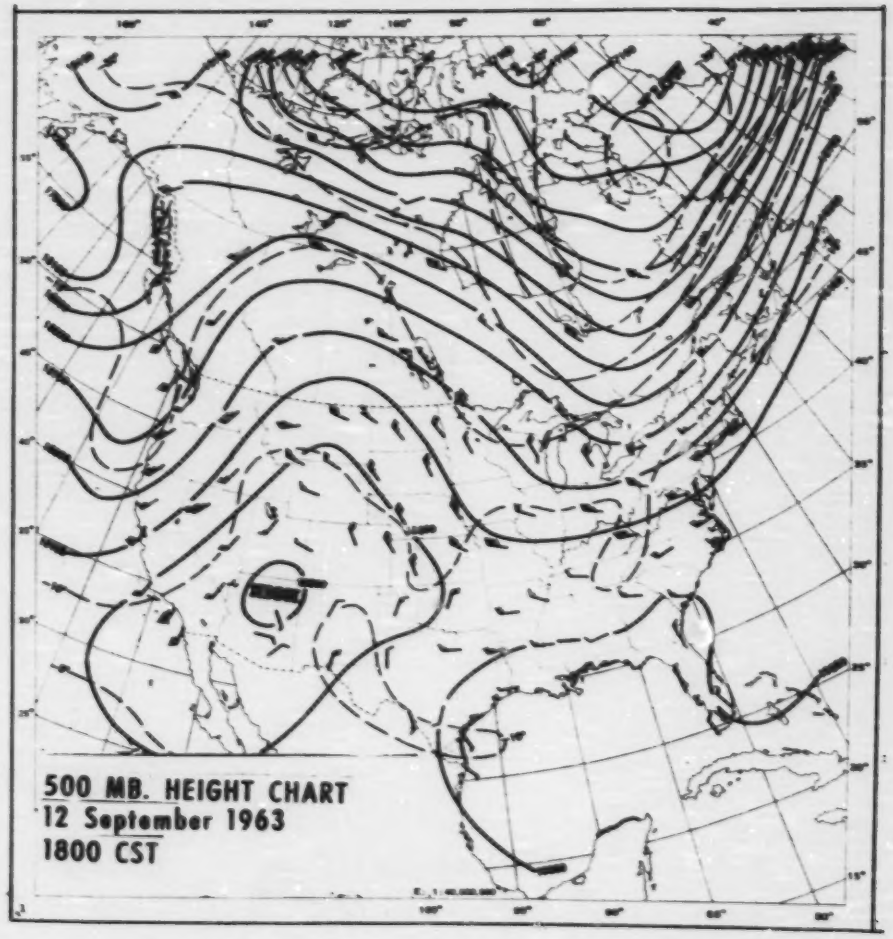
A cold front passed through the St. Louis area at about 0700 CST. Moderate northerly winds and cloudy skies persisted throughout the experiment.

*Feed rate adjusted from 19 to 15 volts at 1128 CST.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



SEA LEVEL PRESSURE MAP
12 September 1963
1200 CST



500 MB. HEIGHT CHART
12 September 1963
1800 CST

# Table 1 (continued). EXPERIMENT SUMMARY SHEETS

## Experiment Ten

14 September 1963
Sampling Arcs: 4, 5, 6

Dissemination Site: K. of C. Building
Dissemination from 1045 to 1145 CST

Dissemination: 5425.1 gm
Lot Size No. 1339-1

### Disseminator Feed Voltage Readings

11.0 v (1045, 1100 CST); 9.0 v (1100, 1115, 1130, 1145 CST)

### Sampling Data

Total Surface Dosages (incomplete)

### Meteorological Data

Pilot Balloons
CBI and PIA Rawinsondes
WBAS, Lambert Field

Outlying Station Winds
KMOX Tower Winds (except middle level)

### Commentary

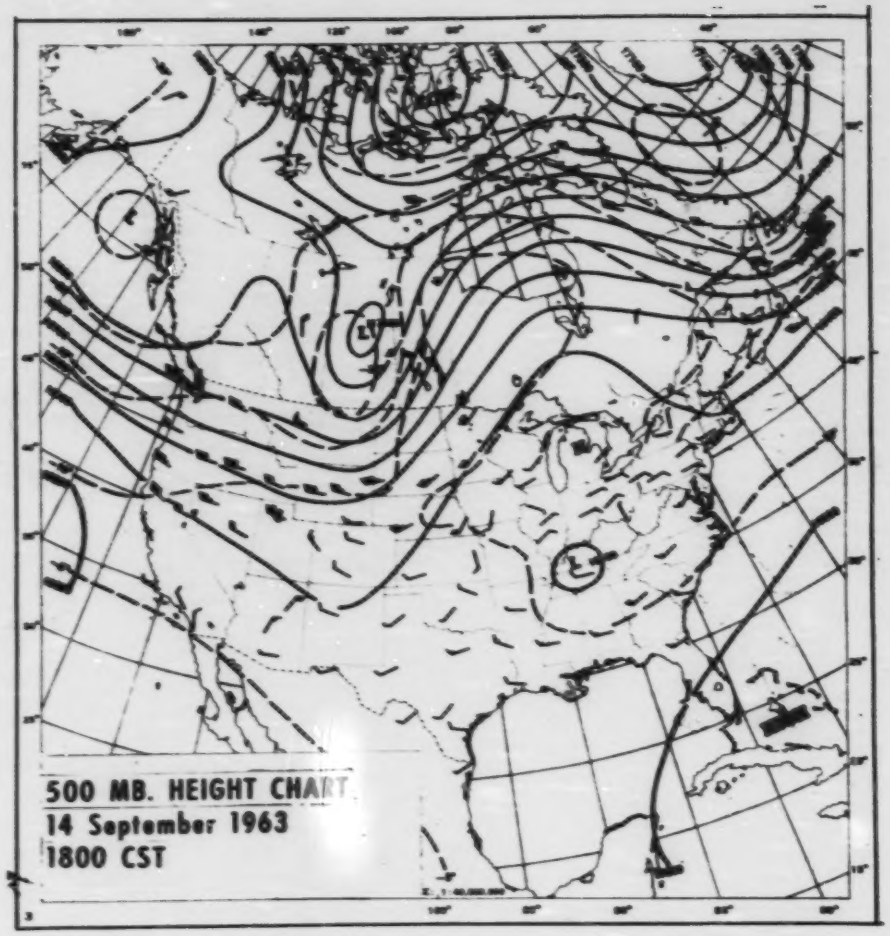
The tracer cloud passed about 30 degrees (in azimuth) off the left end of the sampling arcs; no useful results were obtained.

### Synoptic Situation

Light easterly winds and clear skies resulted from a ridge extending from the Great Lakes to Arkansas.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

SEA LEVEL PRESSURE MAP
14 September 1963
1200 CST



500 MB. HEIGHT CHART
14 September 1963
1800 CST

## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Eleven

16 September 1963 | Dissemination Site: K. of C. Building | Dissemination: 7220.7 gm
Sampling Arcs: 4, 5, 6 | Dissemination from 1100 to 1200 CST | Lot Size No. 1339-1

### Disseminator Feed Voltage Readings

12.5 v (entire dissemination)

### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde

Dissemination Site Winds (Speed missing)
WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds (except middle, upper levels)

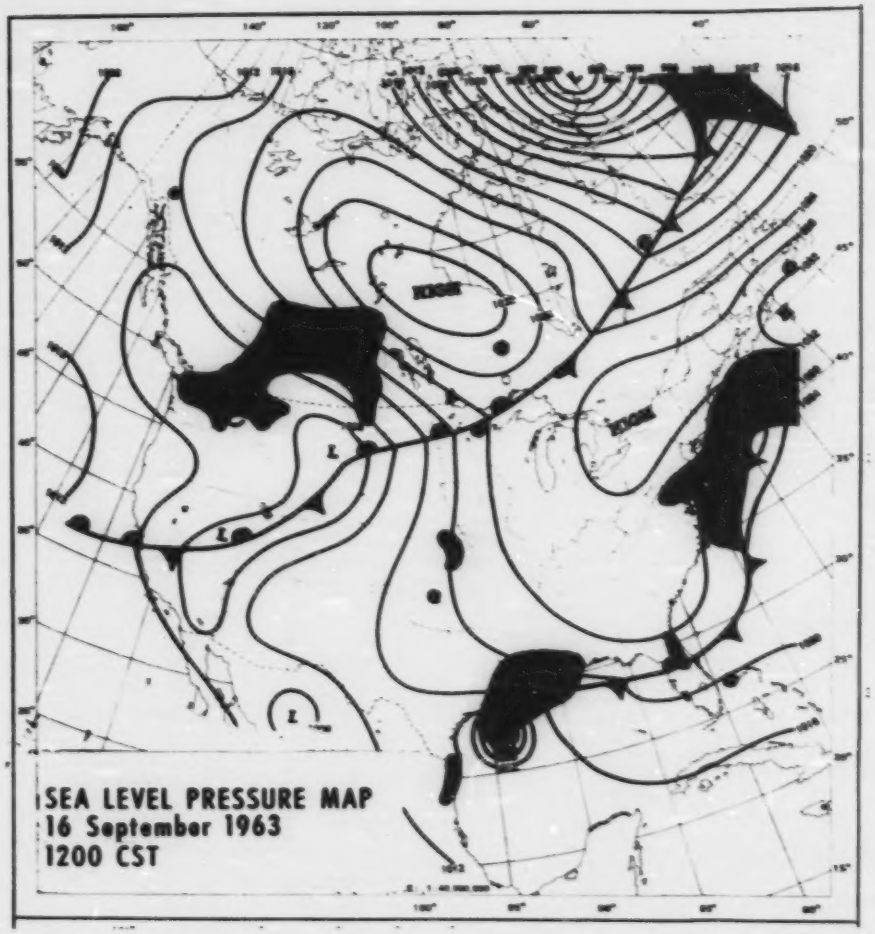
### Commentary

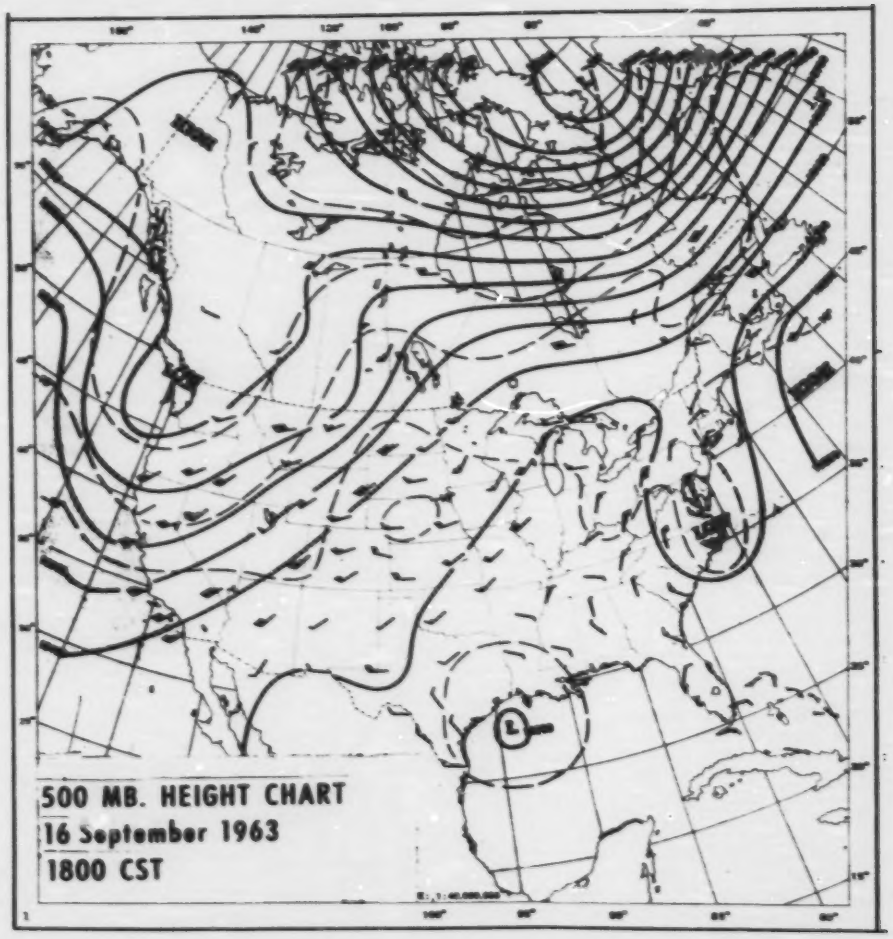
None.

### Synoptic Situation

Light southeasterly winds and partly cloudy skies existed in response to a high pressure area center over the Eastern states.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

### Experiment Twelve

17 September 1963 — Dissemination Site: K. of C. Building — Dissemination: 804.6 gm
Sampling Arcs: 4, 5, 6 — Dissemination from 2000 to 2030 CST — Lot Size No. 1339-1

#### Disseminator Feed Voltage Readings

4.0 v (entire dissemination)

#### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

#### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde

Dissemination Site Winds
WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds (except middle, upper levels)

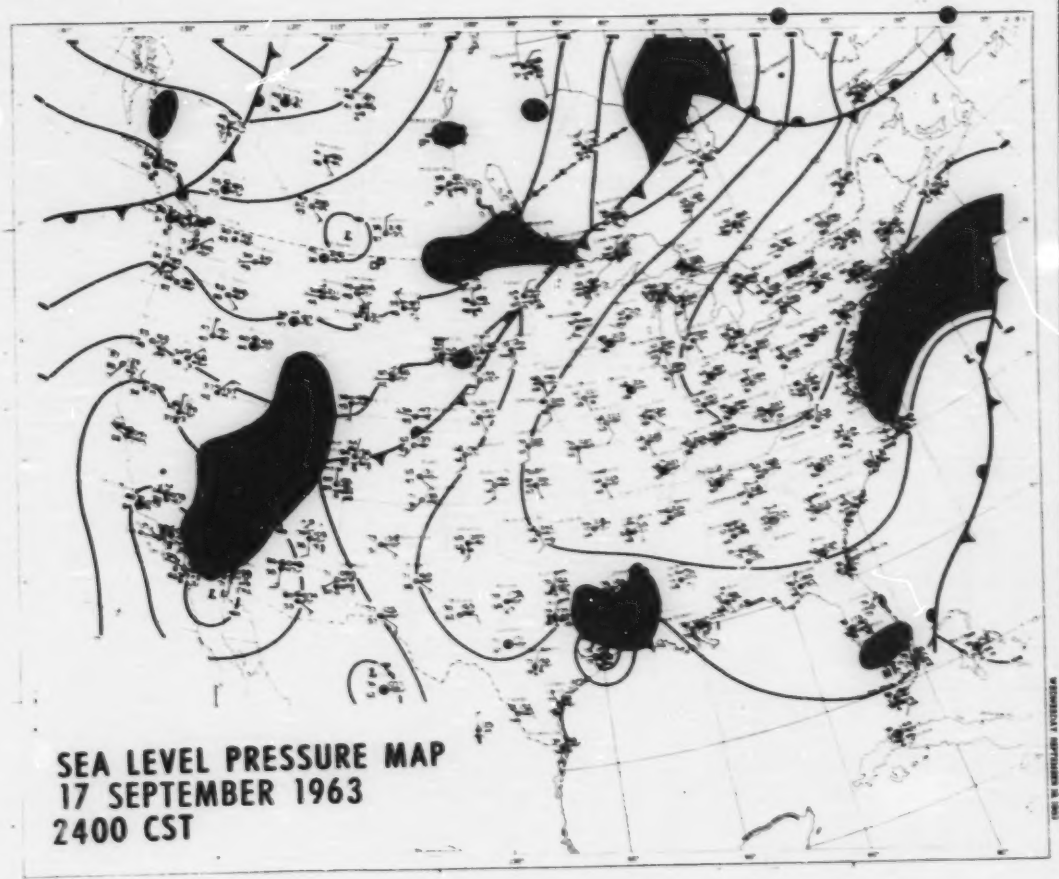
#### Commentary

Several samplers on the outer sampling arc apparently were not turned on until the initial elements of the tracer cloud had reached them; significant loss of dosage was not thought to have occurred.

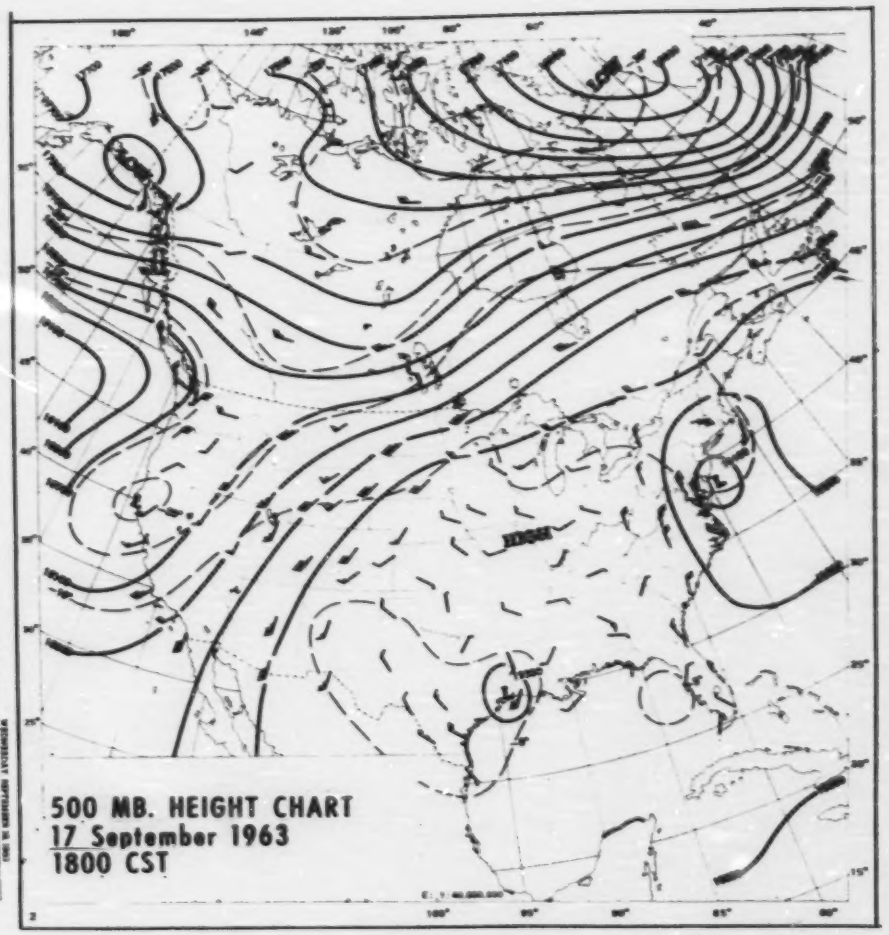
#### Synoptic Situation

Steady southeasterly winds and clear skies persisted in response to a high pressure area over the Eastern states and a ridge line to the north of St. Louis.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



SEA LEVEL PRESSURE MAP
17 SEPTEMBER 1963
2400 CST



500 MB. HEIGHT CHART
17 September 1963
1800 CST

## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Thirteen

18 September 1963 — Dissemination Site: K. of C. Building — Dissemination: 2651.9 gm
Sampling Arcs: 4, 5, 6 — Dissemination from 2000 to 2100 CST — Lot Size No. 1339-1

### Disseminator Feed Voltage Readings

5.5 v (entire dissemination)

### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde

Dissemination Site Winds
WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds (except lower, middle levels)

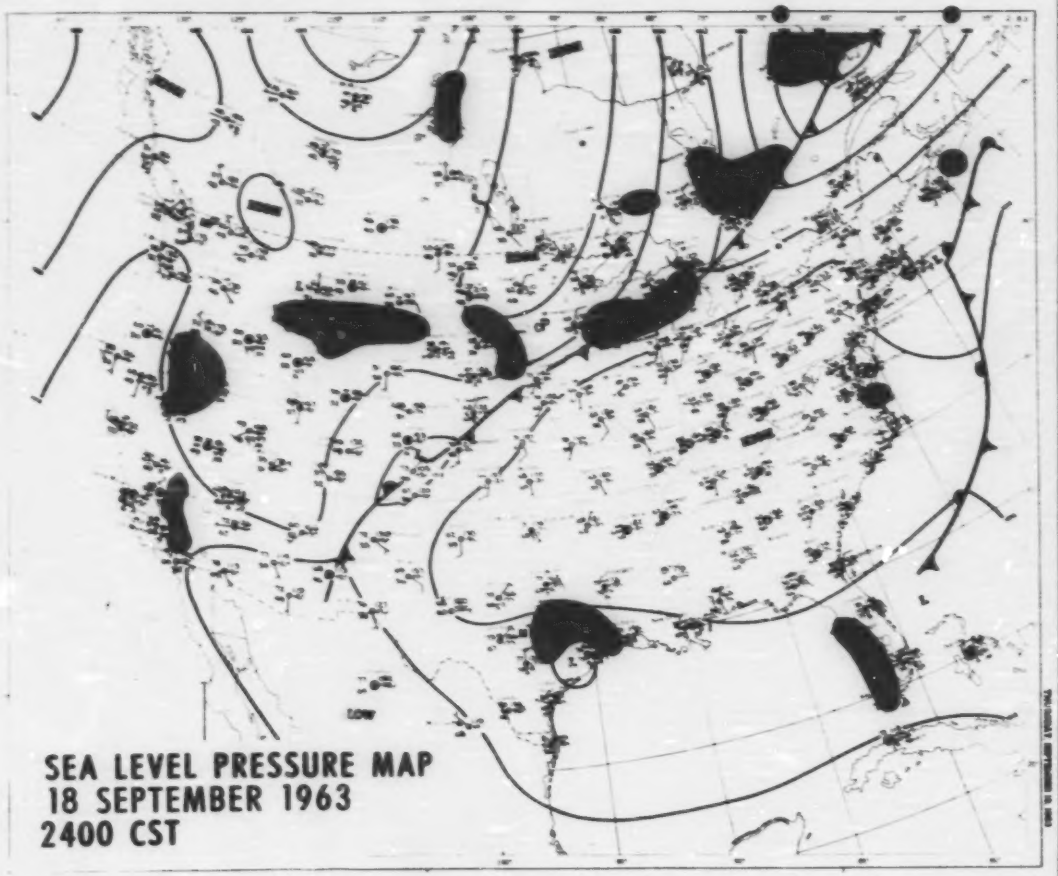
### Commentary

The samplers on the inner sampling arc and several samplers on the outer sampling arc were apparently turned off before the entire tracer cloud reached them; because of the uncertainty of the results obtained, no adequate method was devised for adjusting the dosages.

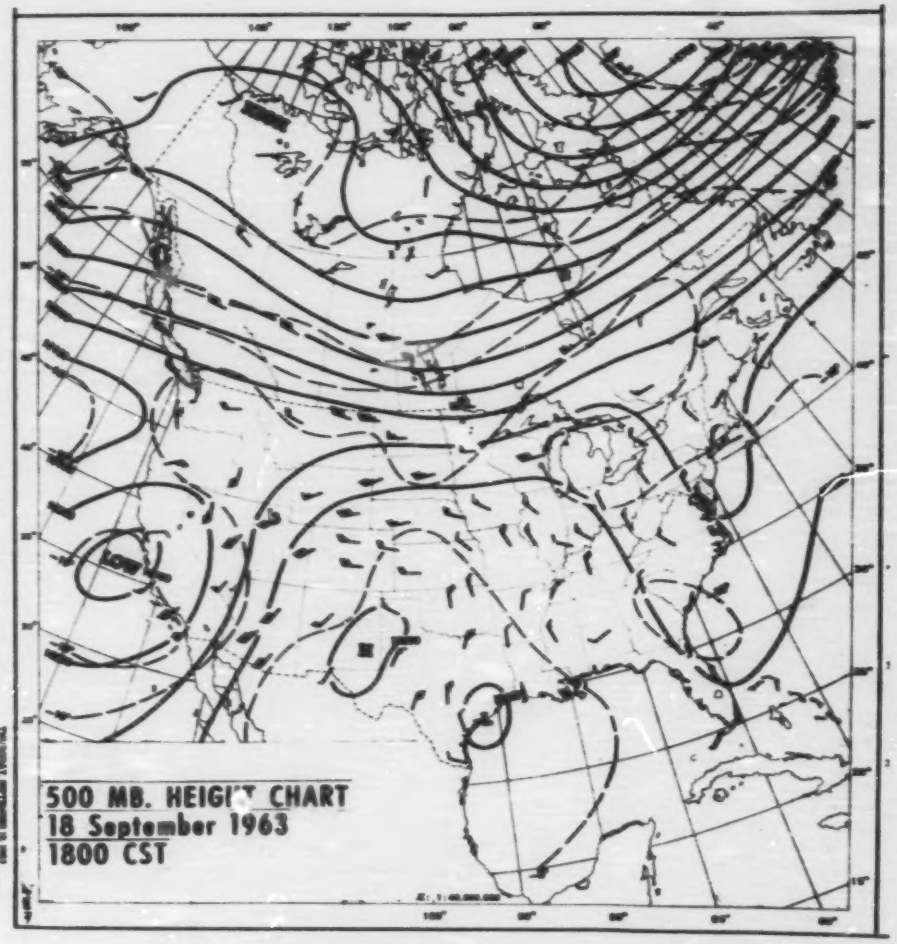
### Synoptic Situation

A diffuse high pressure system existed over the area. During the course of the experiment, light easterly winds were gradually replaced by moderate southeasterly winds.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



SEA LEVEL PRESSURE MAP
18 SEPTEMBER 1963
2400 CST



500 MB. HEIGHT CHART
18 September 1963
1800 CST

## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

### Experiment Fourteen

1 April 1964 | Dissemination Site: K. of C. Building | Dissemination: 3055.0 gm
Sampling Arcs: 4, 5, 6 | Dissemination from 1200 to 1300 CST | Lot Size No. 1339-2

#### Disseminator Feed Voltage Readings

6.0 v (entire dissemination)

#### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

#### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde

WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds (except middle level)

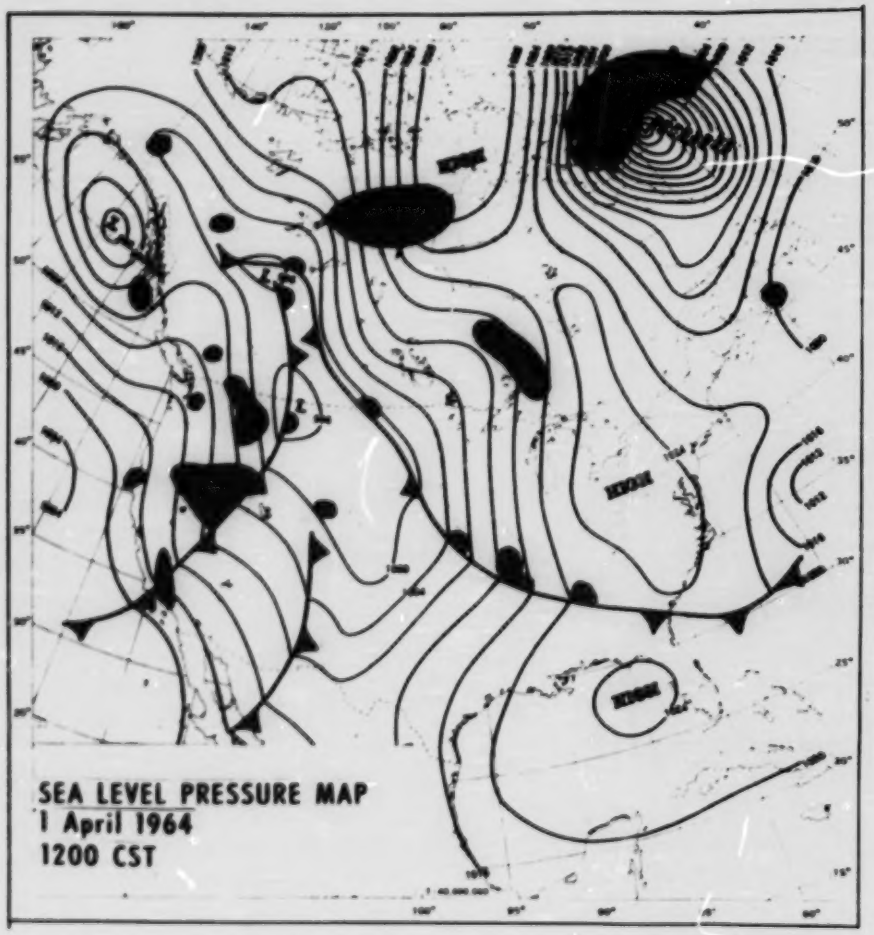
#### Commentary

One sampler contained contamination dosage.

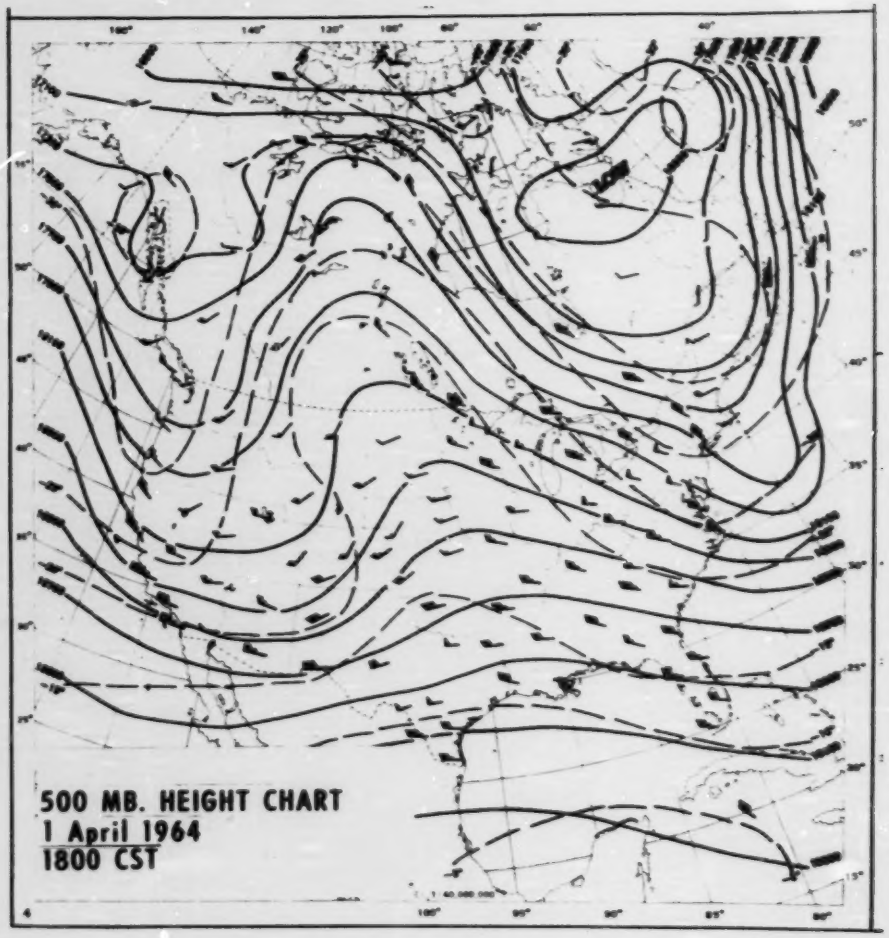
#### Synoptic Situation

Strong southeasterly winds and cloudy skies existed in advance of an advancing warm front.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



SEA LEVEL PRESSURE MAP
1 April 1964
1200 CST



500 MB. HEIGHT CHART
1 April 1964
1800 CST

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Fifteen

6 April 1964 | Dissemination Site: K. of C. Building | Dissemination: 2229.7 gm
Sampling Arcs: 4, 5, 6 | Dissemination from 2040 to 2140 CST | Lot Size No. 1339-2

Disseminator Feed Voltage Readings

5.0 v (entire dissemination)

Sampling Data

Total Surface Dosages

Sequential Surface Dosages

Meteorological Data

Pilot Balloons
CPT and PIA Rawinsondes
Free Radiosonde
Dissemination Site Winds

WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds (except middle level)

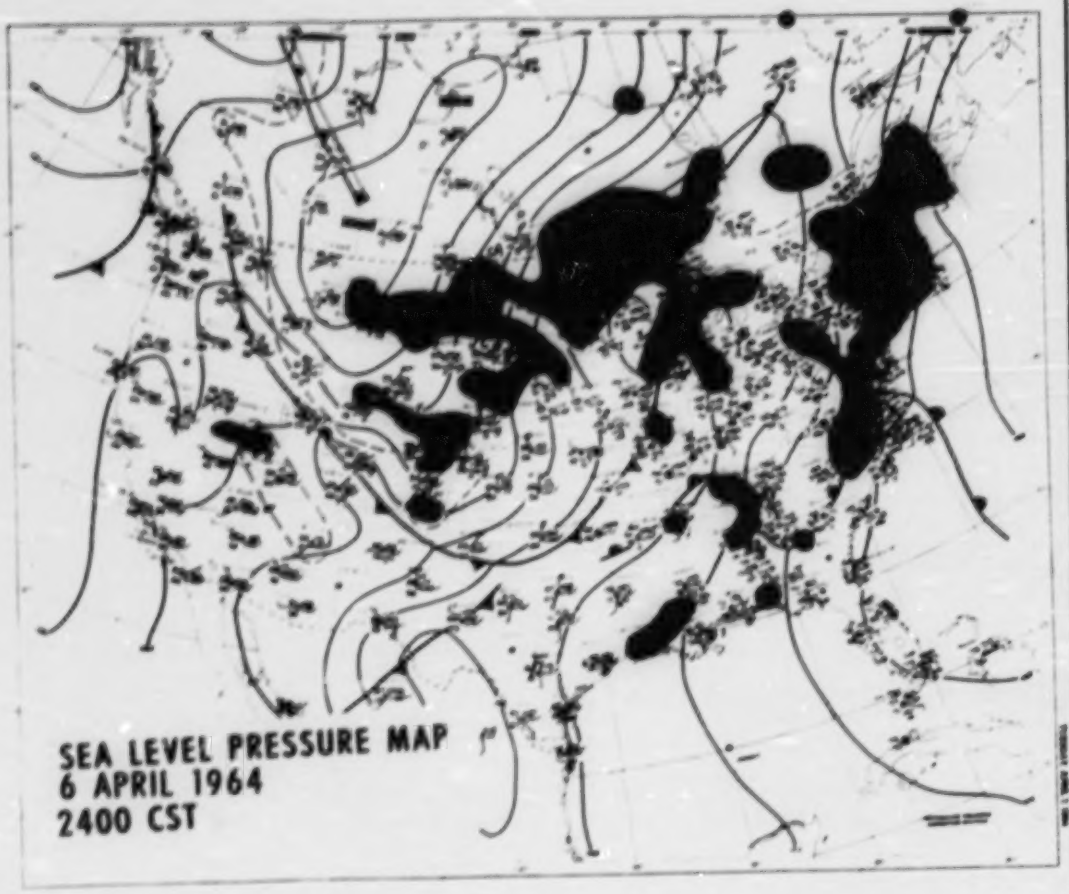
Commentary

The tracer cloud was not completely contained within the sampling arcs.

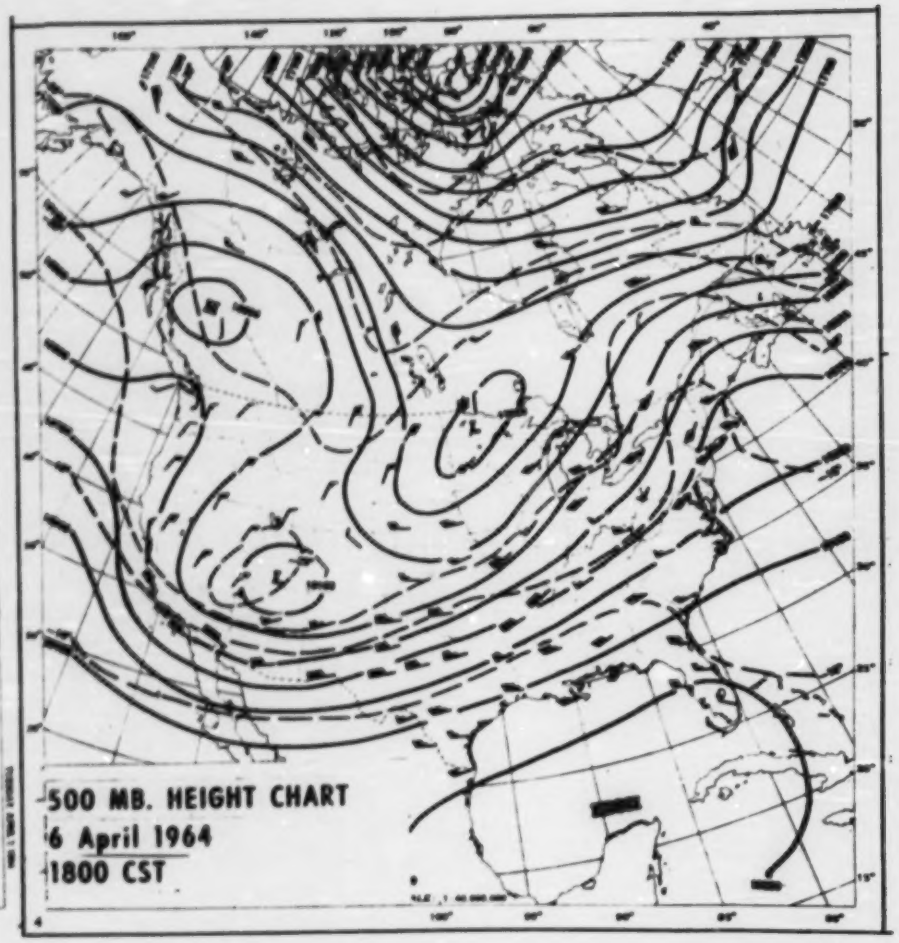
Synoptic Situation

Squall lines with attendant showers and thundershowers developed during the afternoon and passed through the St. Louis area during the course of the experiment. The first and second lines passed through at about 1800 and 2100 CST, respectively. The winds slowed and backed from west during squall line passage to southwest following passage.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



SEA LEVEL PRESSURE MAP
6 APRIL 1964
2400 CST



500 MB. HEIGHT CHART
6 April 1964
1800 CST

## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

### Experiment Sixteen

7 April 1964
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 2048 to 2148 CST

Dissemination: 1761.1 gm
Lot Size No. 1339-2

#### Disseminator Feed Voltage Readings

6.0 v (entire dissemination)

#### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

#### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde

Dissemination Site Winds
WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds (except middle level)

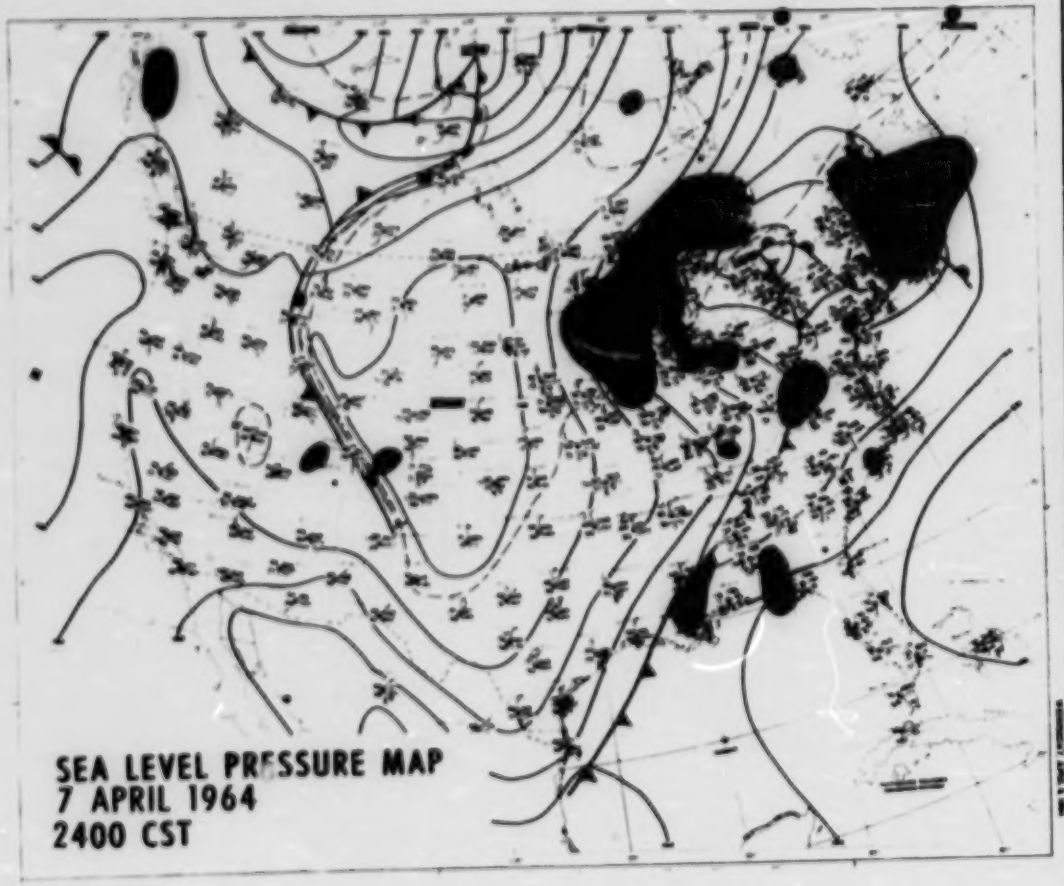
#### Commentary

None.

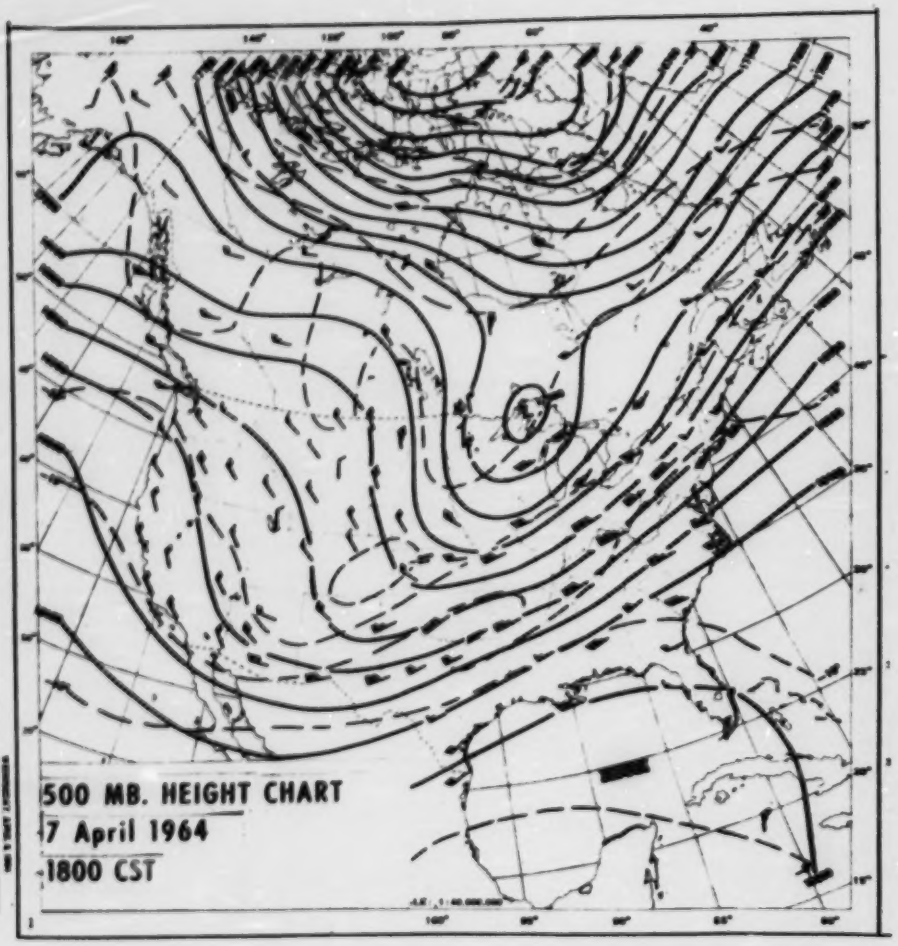
#### Synoptic Situation

Strong, increasing northwesterly winds, cloudy skies, and strong cold air advection existed following the passage of a cold front.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



SEA LEVEL PRESSURE MAP
7 APRIL 1964
2400 CST



500 MB. HEIGHT CHART
7 April 1964
1800 CST

# Table 1 (continued). EXPERIMENT SUMMARY SHEETS

## Experiment Seventeen

8 April 1964
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 2030 to 2130 CST

Dissemination: 2593.3 gm
Lot Size No. 1339-2

### Disseminator Feed Voltage Readings

7.5 v (entire dissemination)

### Sampling Data

Total Surface Dosages (incomplete)

### Meteorological Data

Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde
Dissemination Site Winds

WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds (except middle level)

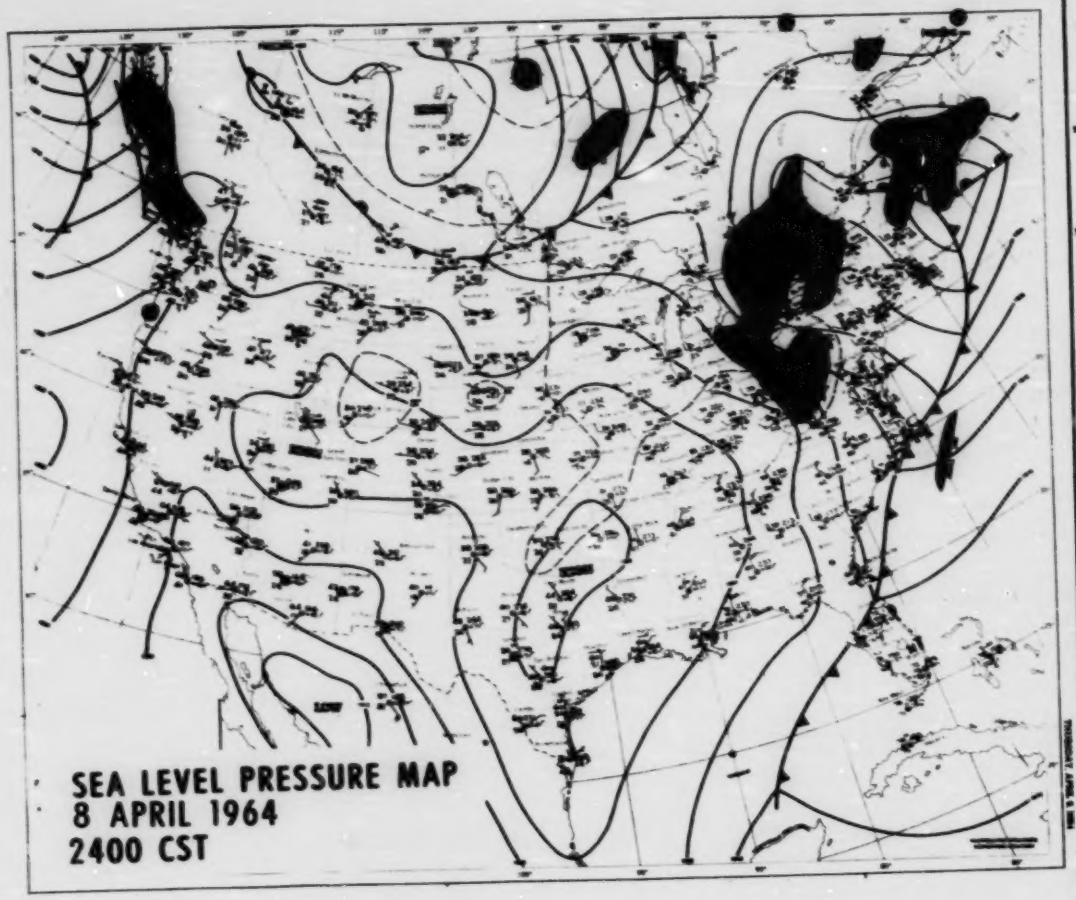
### Commentary

The tracer cloud almost completely missed the sampling arcs; no useful data were obtained.

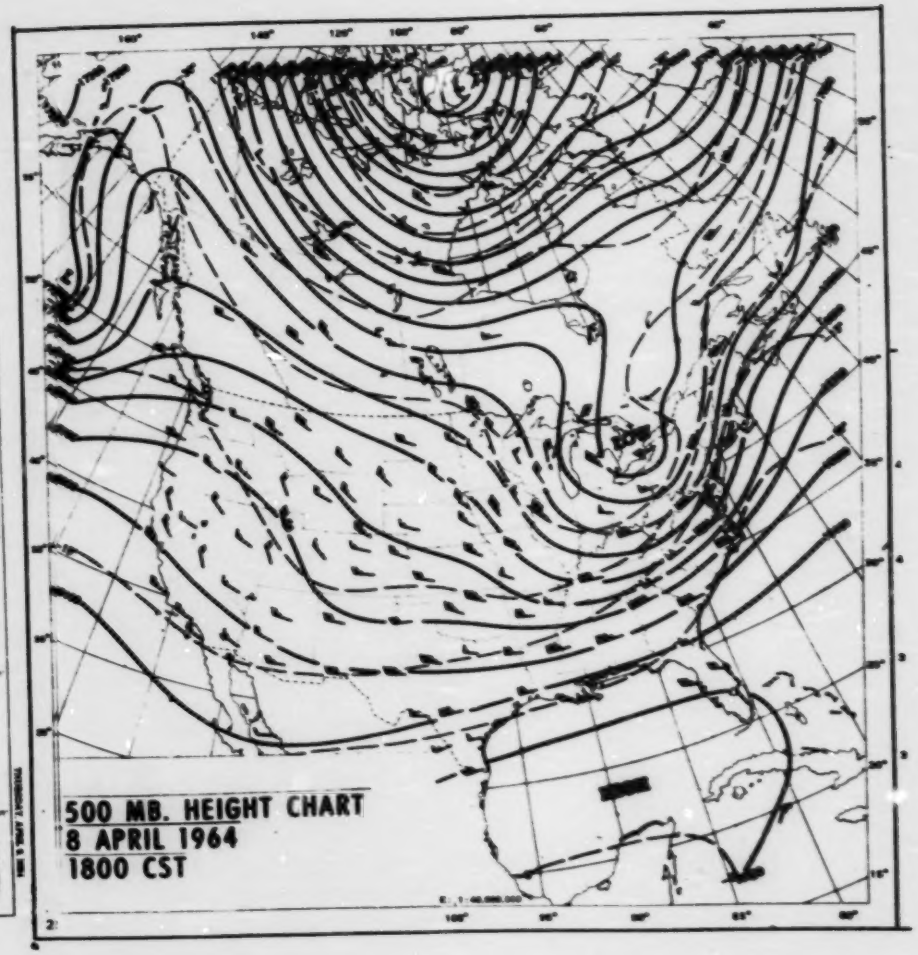
### Synoptic Situation

Moderate westerly winds and clear skies persisted in response to a high pressure area centered over Oklahoma.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



SEA LEVEL PRESSURE MAP
8 APRIL 1964
2400 CST



500 MB. HEIGHT CHART
8 APRIL 1964
1800 CST

## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

### Experiment Eighteen

9 April 1964
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 2045 to 2145 CST

Dissemination: 2256.8 gm
Lot Size No. 1339-2

#### Disseminator Feed Voltage Readings

6.8 v (entire dissemination)

#### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

Dosages in the Vertical

#### Meteorological Data

Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde
Dissemination Site Winds

WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds (except middle level)

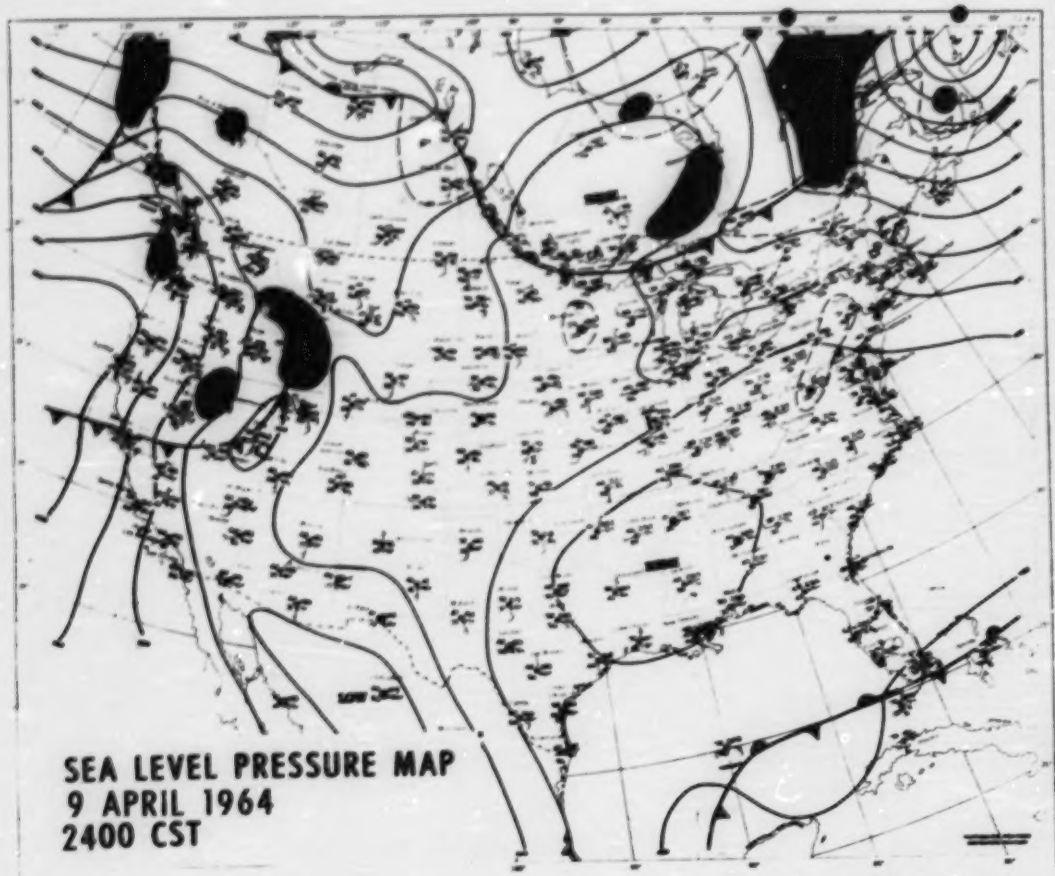
#### Commentary

Several samplers on the outer sampling arc apparently were turned off before the last elements of the tracer cloud had reached them; significant loss of dosage was not considered to have occurred. One sampler contained contamination dosage.

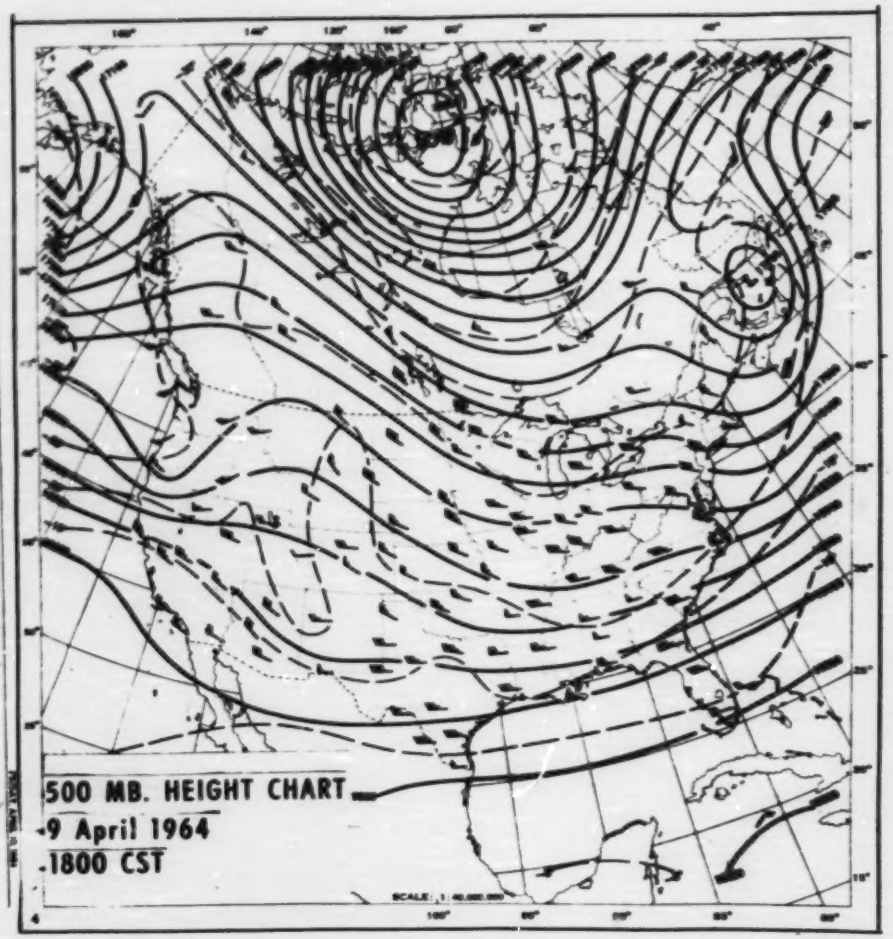
#### Synoptic Situation

Moderate southwesterly winds and partly cloudy skies occurred in response to a high pressure area centered on the Arkansas-Mississippi border.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



SEA LEVEL PRESSURE MAP
9 APRIL 1964
2400 CST



500 MB. HEIGHT CHART
9 April 1964
1800 CST

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Nineteen

2 June 1964
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 1030 to 1130 CST

Dissemination: 7532.6 gm
Lot Size No. 1339-5

Disseminator Feed Voltage Readings

15.0 v (1030 CST); 13.5 v (1045 CST); 12.0 v (1100, 1115, 1130 CST)

Sampling Data

Total Surface Dosages

Sequential Surface Dosages

Meteorological Data

Pilot Balloons
CBI and PIA Rawinsondes
Dissemination Site Winds

WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds

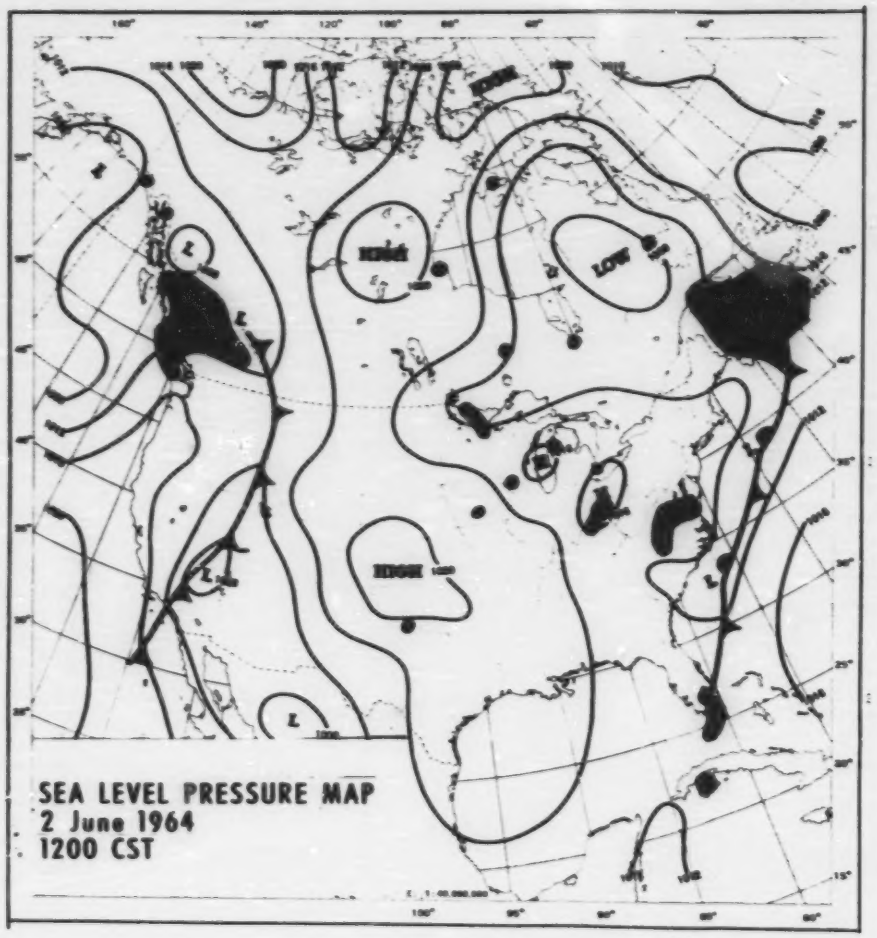
Commentary

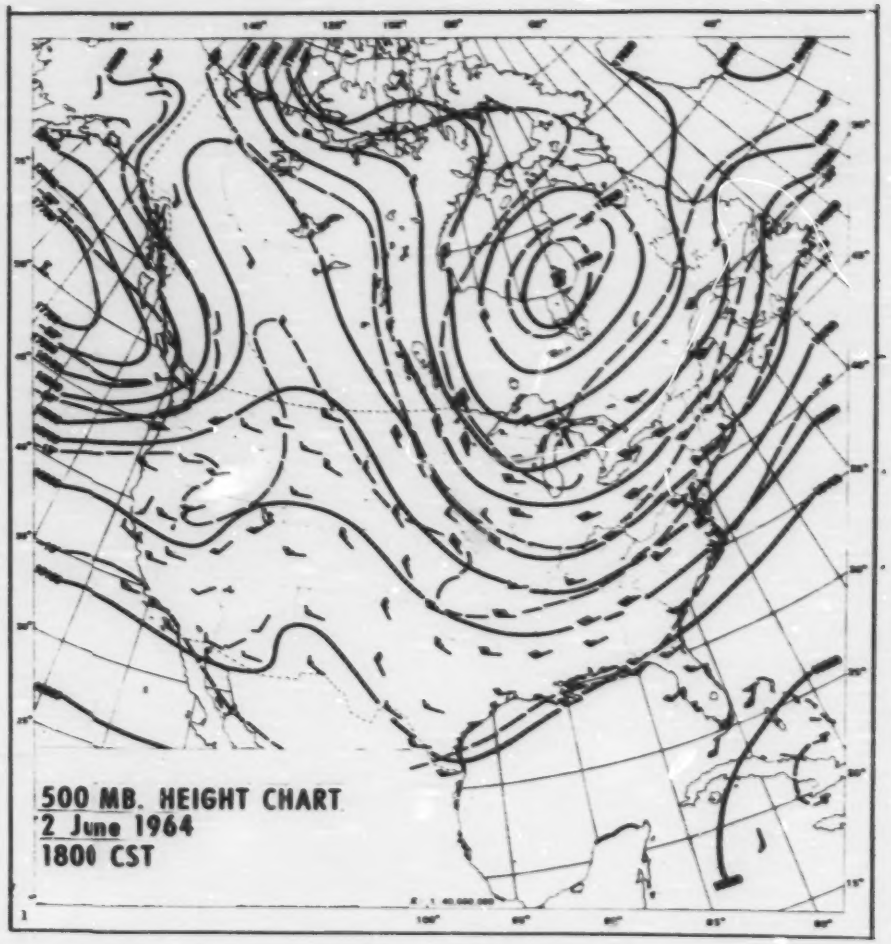
Three samplers contained contamination dosage.

Synoptic Situation

Gusty westerly winds and partly cloudy skies existed. The low level circulation was dominated by a high pressure cell centered over Western Kansas.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Twenty

3 June 1964
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 1040 to 1140 CST

Dissemination: 7383.0 gm
Lot Size No. 1339-5

### Disseminator Feed Voltage Readings

12.5 v (entire dissemination)

### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde

Dissemination Site Winds
WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds

### Commentary

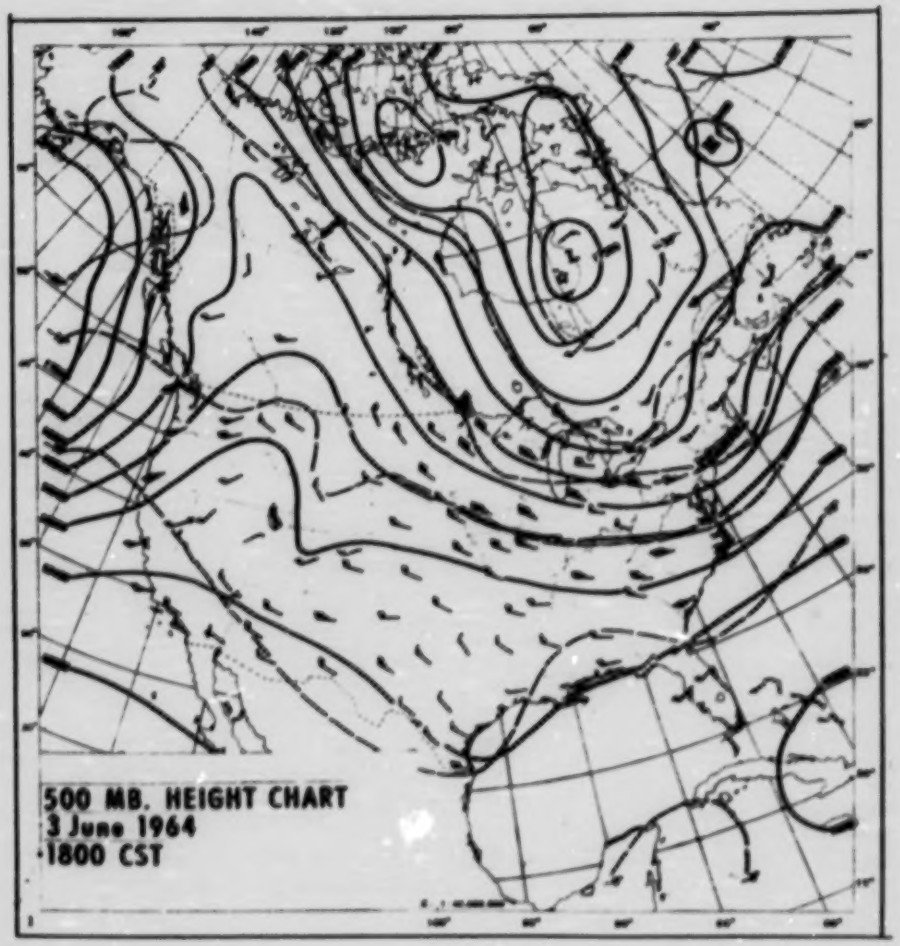
Two samplers contained contamination dosage.

### Synoptic Situation

Light, variable winds and clear skies result from a high pressure area centered over the Arkansas-Mississippi border.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

SEA LEVEL PRESSURE MAP
3 June 1964
1200 CST



500 MB. HEIGHT CHART
3 June 1964
1800 CST

## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Twenty-One

4 June 1964
Sampling Arcs: 4, 6, 7

Dissemination Site: K. of C. Building
Dissemination from 1030 to 1130 CST

Dissemination: 9783.3 gm
Lot Size No. 1339-4, 1339-5[a]

### Disseminator Feed Voltage Readings

19.3 v (1030 CST); 16.0 v (1050, 1115, 1130 CST)

### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

Dosages in the Vertical

### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde

Dissemination Site Winds
WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds

### Commentary

One sampler contained contamination dosage.

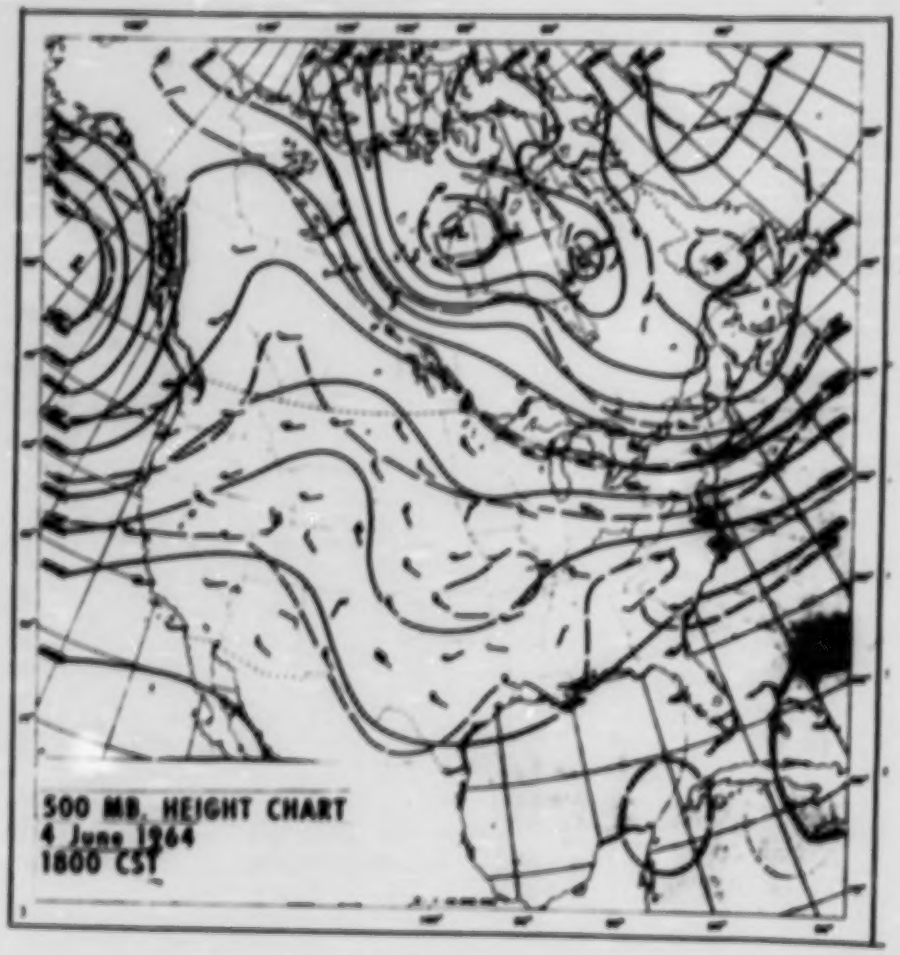
### Synoptic Situation

Decreasing south southwesterly winds and cloudy skies existed. An advancing shower area was located in western Missouri.

---

[a] 2673.2 gm of 1339-4 and 7110.0 gm of 1339-5.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Twenty-Two

6 June 1964
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 1130 to 1230 CST

Dissemination: 8724.3 gm
Lot Size No. 1339-4

### Disseminator Feed Voltage Readings

16.0 v (entire dissemination)

### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde

Dissemination Site Winds
WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds

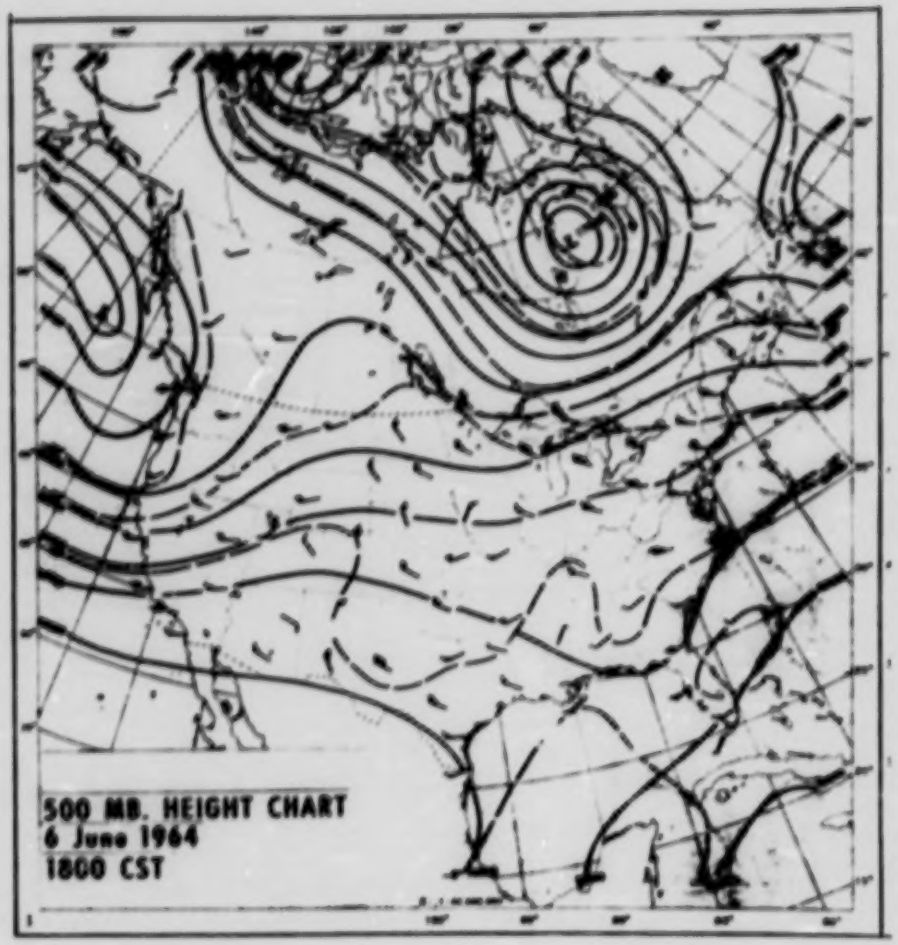
### Commentary

The left edge of the tracer cloud was not completely contained within the sampling arcs.

### Synoptic Situation

Moderate southeasterly winds and cloudy skies persisted in advance of a low pressure area located over southwestern Missouri.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



# Table 1. EXPERIMENT SUMMARY SHEETS

## Experiment Twenty-Three

7 June 1963 | Dissemination Site: Forest Park | Dissemination: 8064.9 gm
Sampling Arcs: 1, 2, 3 | Dissemination from 1432 to 1232 CST | Lot Size No. 1320

### Disseminator Feed Voltage Readings

14.5 v (entire dissemination)

### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde

Dissemination Site Winds (Speed missing)
WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds

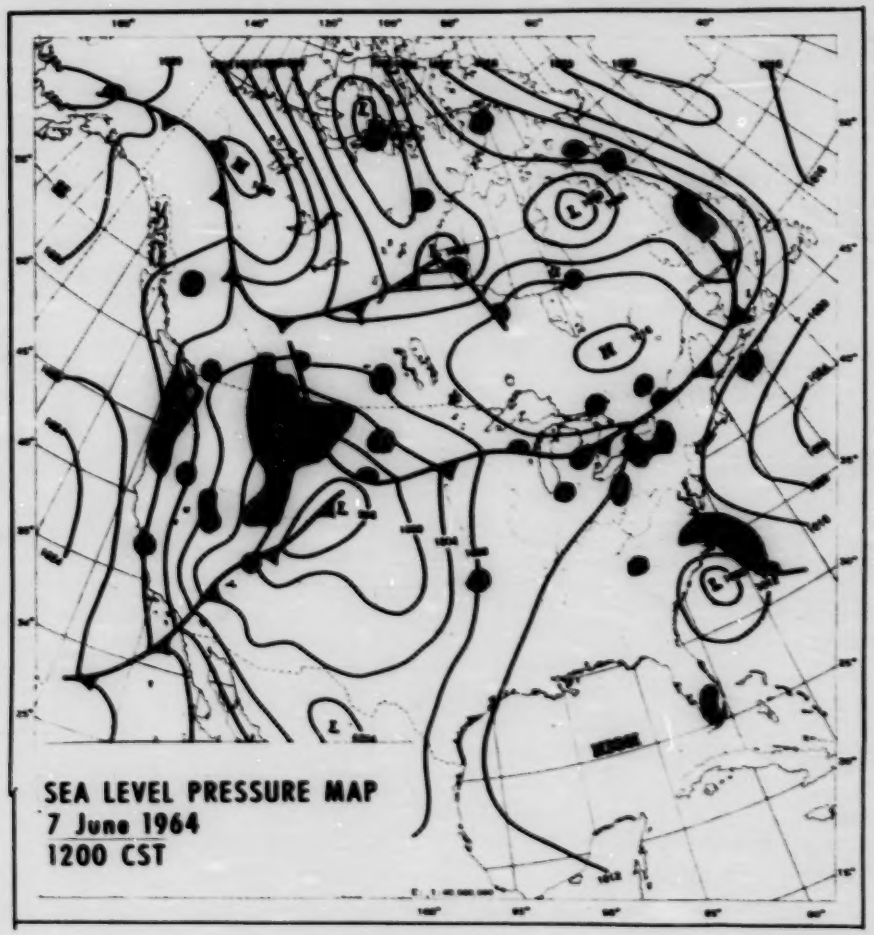
### Commentary

The right edge of the tracer cloud missed the sampling arc.

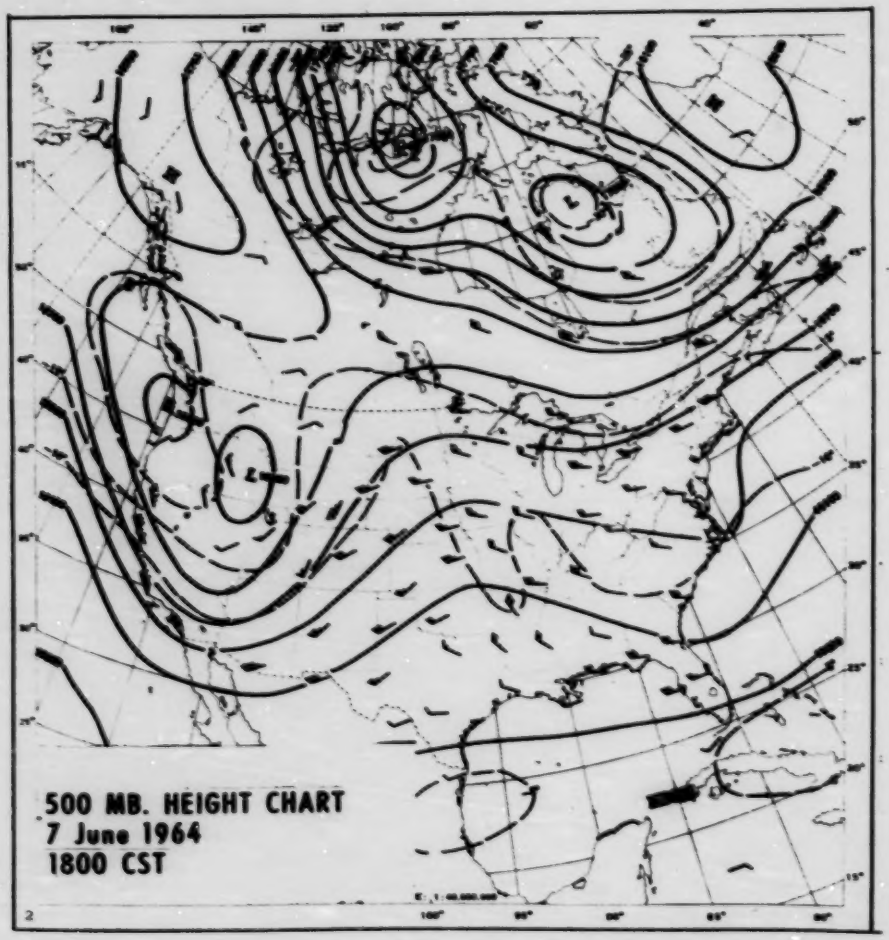
### Synoptic Situation

Light southerly winds and cloudy skies existed in advance of a developing storm center which was located over the Rocky Mountains.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



SEA LEVEL PRESSURE MAP
7 June 1964
1200 CST



500 MB. HEIGHT CHART
7 June 1964
1800 CST

## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

### Experiment Twenty-Four

9 June 1964
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 1030 to 1130 CST

Dissemination: 9019.0 gm
Lot Size No. 1339-1

#### Disseminator Feed Voltage Readings

16.0 v (entire dissemination)

#### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

#### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde

Dissemination Site Winds
WBAS, Lambert Field
Outlying Station Winds (except Hazelwood)
KMOX Tower Winds

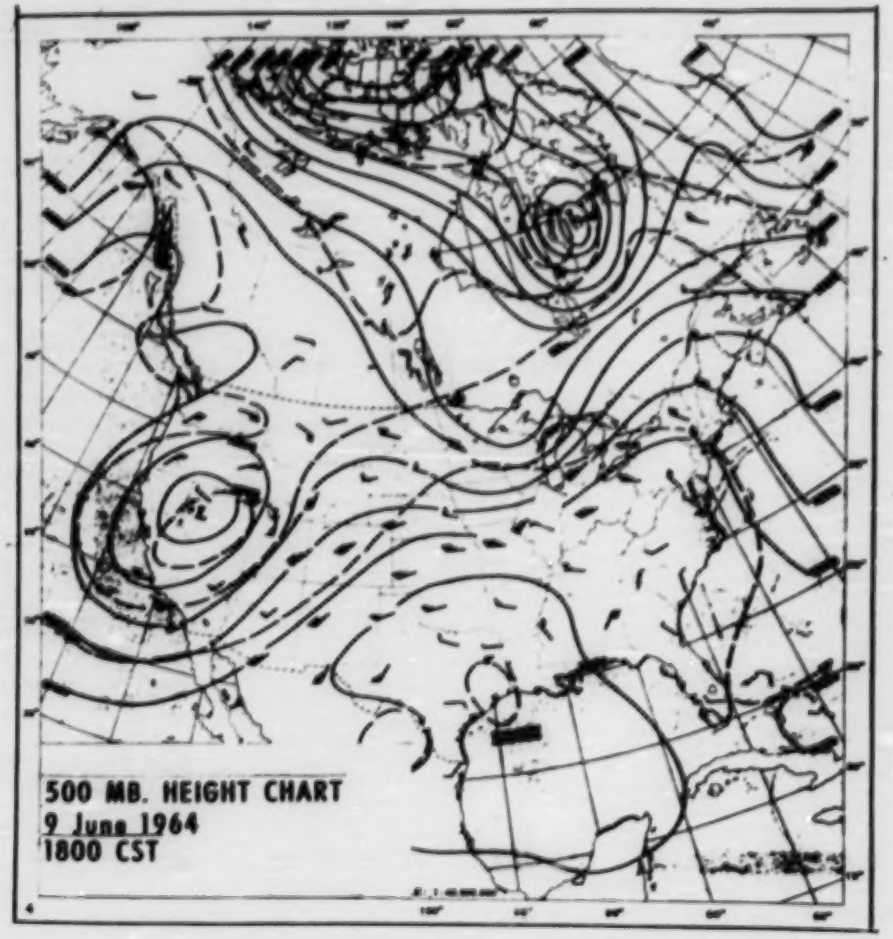
#### Commentary

One sampler contained contamination dosage.

#### Synoptic Situation

Strong southwesterly winds and increasing cloudiness existed in advance of a cold front which was located in northwestern Missouri.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

### Experiment Twenty-Five

10 June 1964
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 1033 to 1133 CST

Dissemination: 7801.4 gm
Lot Size No. 1339-1

#### Disseminator Feed Voltage Readings

13.5 v (entire dissemination)

#### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

Dosages in the Vertical

#### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde

Dissemination Site Winds
WBAS, Lambert Field
Outlying Station Winds (except Hazelwood)
KMOX Tower Winds

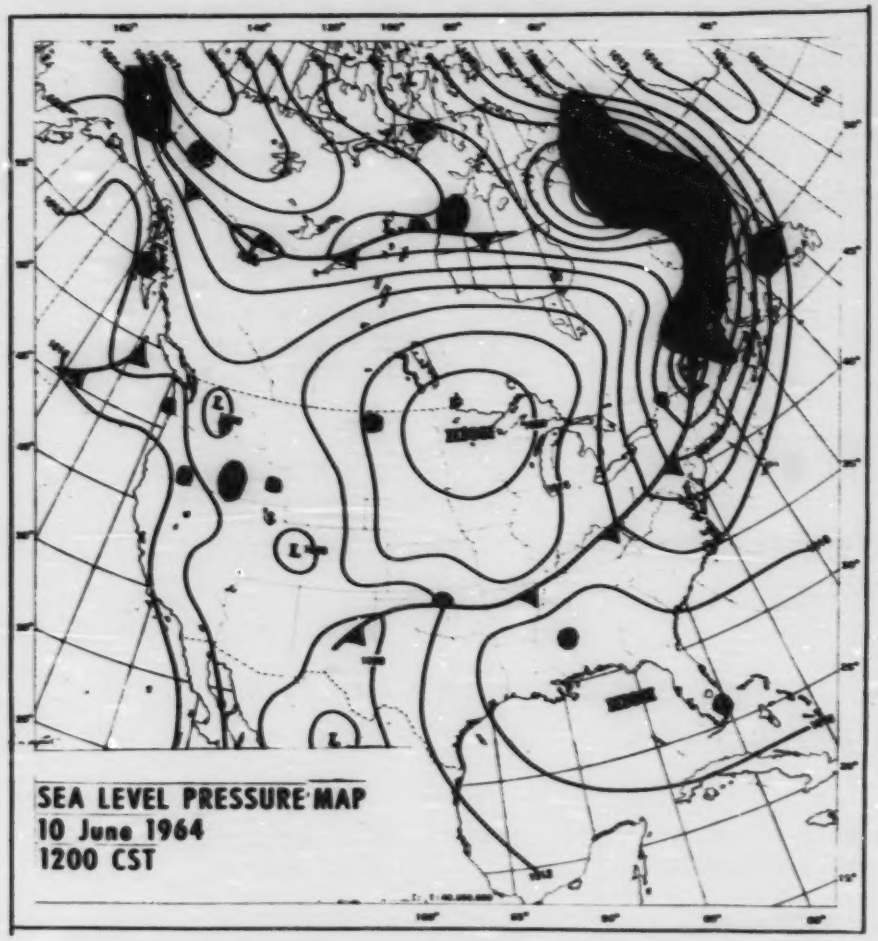
#### Commentary

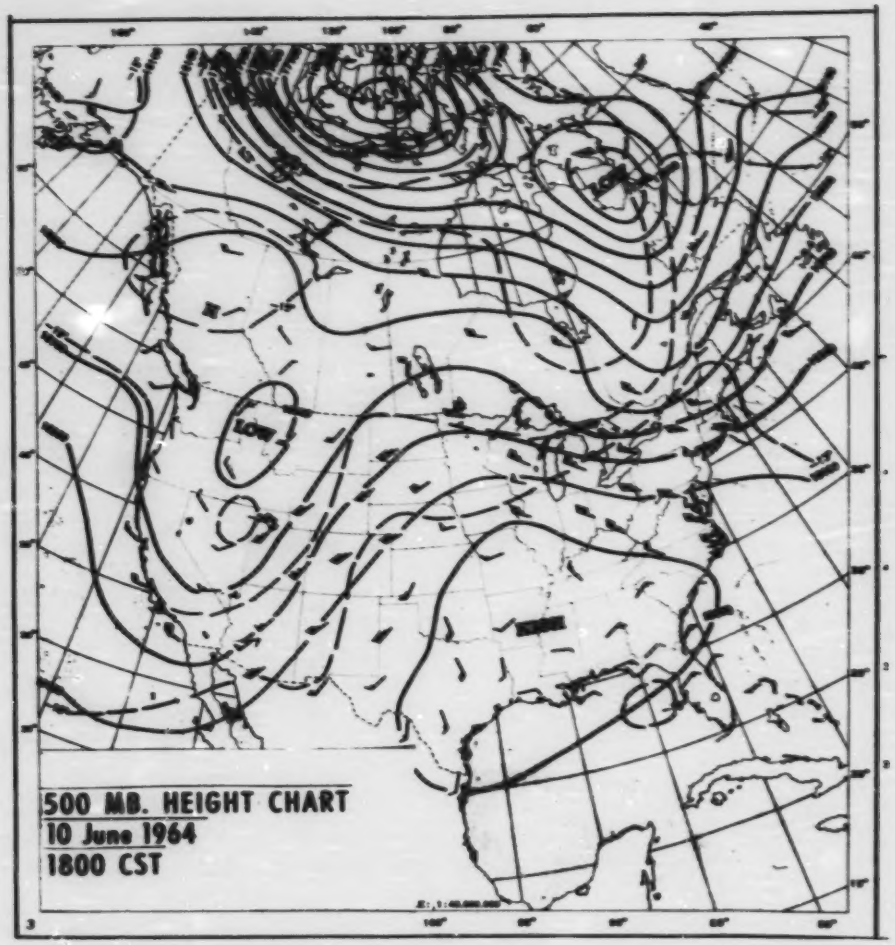
The left edge of the tracer cloud missed the sampling arcs. One sampler contained contamination dosage.

#### Synoptic Situation

Moderate north northeasterly winds and clear skies resulted from a high pressure area which was centered over Minnesota.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

### Experiment Twenty-Six

11 June 1964
Sampling Arcs: 4, 6, 7

Dissemination Site: K. of C. Building
Dissemination from 1035 to 1135 CST

Dissemination: 9001.8 gm
Lot Size No. 1339-2

#### Disseminator Feed Voltage Readings

16.0 v (1035, 1050, 1105 CST); 15.5 v (1120, 1135 CST)

#### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

Dosages in the Vertical

#### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde

Dissemination Site Winds (Direction missing)
WBAS, Lambert Field
Outlying Station Winds (except Hazelwood)
KMOX Tower Winds

#### Commentary

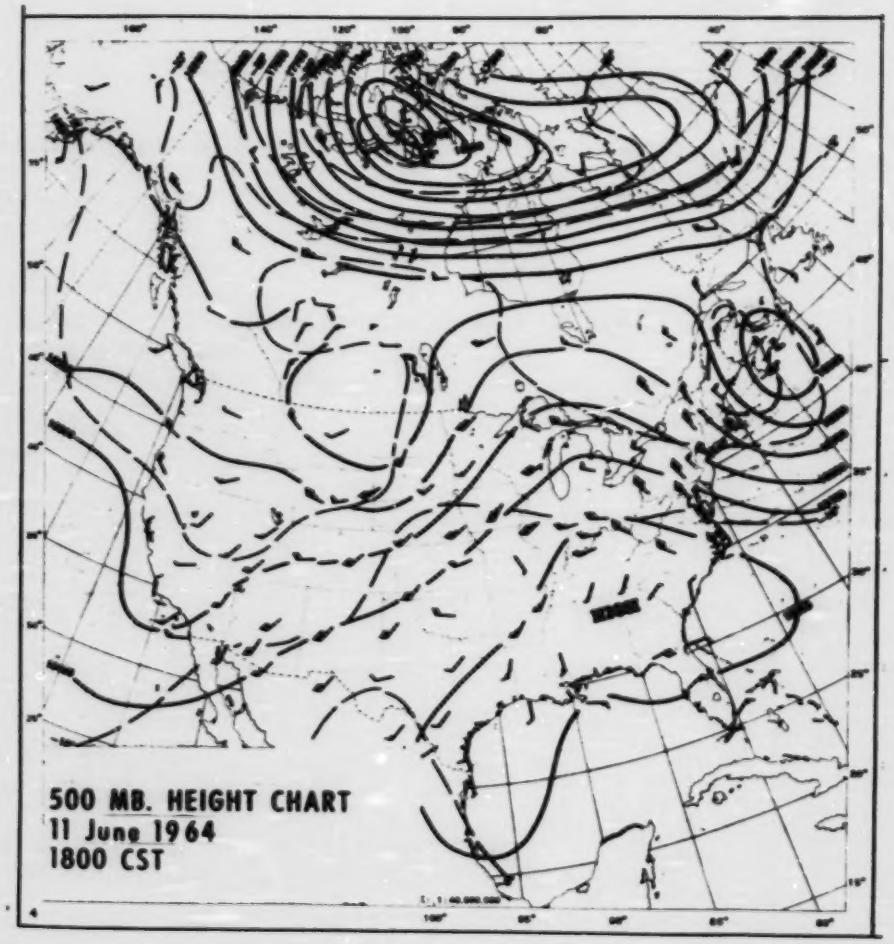
The tracer cloud missed the sampling arcs and at times moved more parallel than perpendicular to the arcs.

#### Synoptic Situation

A mesoscale front formed in the lee of the Ozark Mountains but weakened as it passed through the St. Louis area during the course of the experiment. Wind below and above the frontal inversion were east southeasterly and south south southeasterly, respectively.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

SEA LEVEL PRESSURE MAP
11 June 1964
1200 CST



500 MB. HEIGHT CHART
11 June 1964
1800 CST

## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

### Experiment Twenty-Seven

10 October 1964
Sampling Arcs: 4, 5, 7

Dissemination Site: K. of C. Building
Dissemination from 1130 to 1230 CST

Dissemination: 7838.0 gm
Lot Size No. 1339-2

#### Disseminator Feed Voltage Readings

15.5 v (1130, 1140 CST); 14.0 v (1200, 1230 CST)

#### Sampling Data

Total Surface Dosages (incomplete)

#### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde
Dissemination Site Winds (Direction missing)

WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds
Vertical Temperature Gradients on KMOX Tower

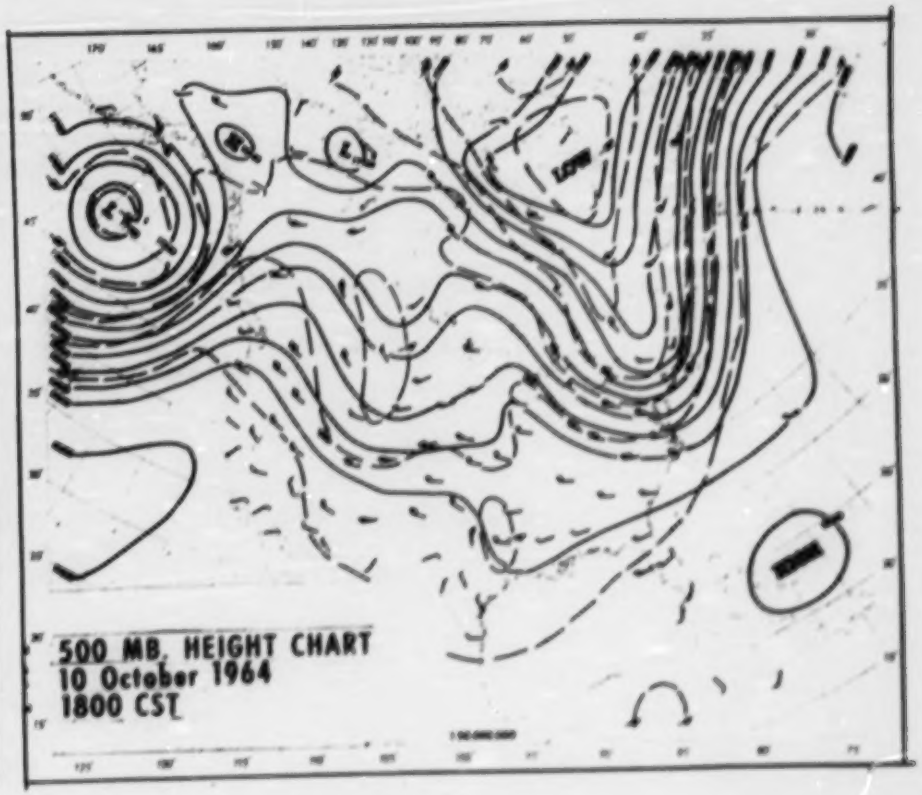
#### Commentary

The tracer cloud almost completely missed the sampling arcs; no useful results were obtained.

#### Synoptic Situation

Partly cloudy skies and light easterly winds were associated with a high pressure area which was centered over Wisconsin. A stagnating front extended from the Plains to Texas.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Twenty-Eight

11 October 1964 | Dissemination Site: K. of C. Building | Dissemination: 7486.4 gm
Sampling Arcs: 4, 5, 7 | Dissemination from 1105 to 1205 CST | Lot Size No. 1339-2

### Disseminator Feed Voltage Readings

14.0 v (1105, 1119 CST); 12.0 v (1135, 1205 CST)

### Sampling Data

Total Surface Dosages | Sequential Surface Dosages | Dosages in the Vertical

### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde
Dissemination Site Winds (Direction missing)
WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds
Vertical Temperature Gradients on KMOX Tower

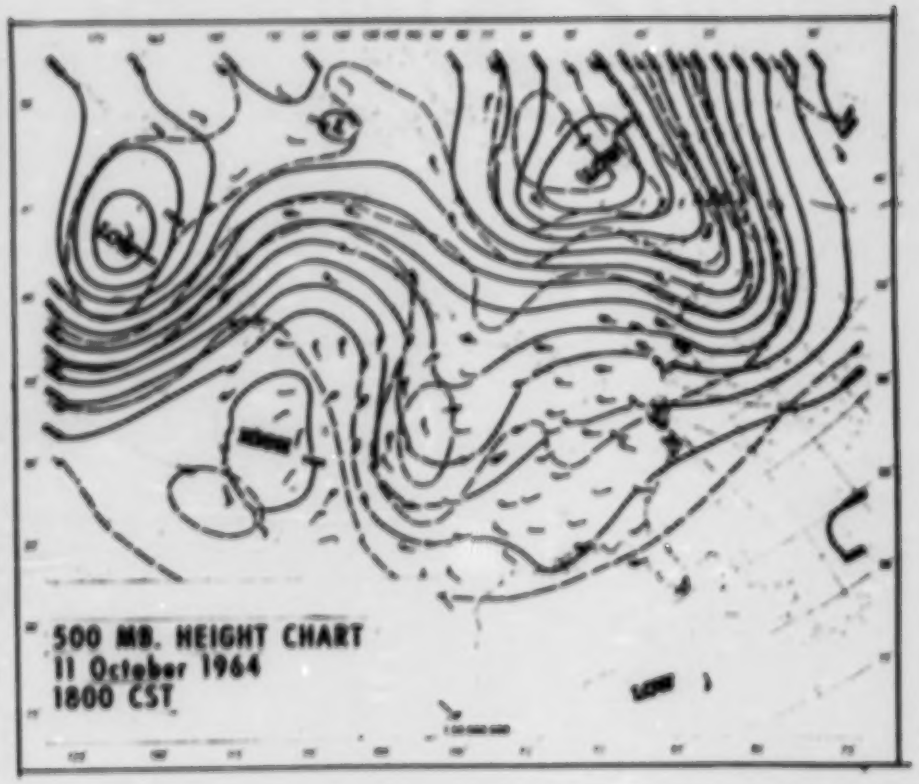
### Commentary

The left edge of the tracer cloud missed the sampling arcs.

### Synoptic Situation

Moderate south southeasterly winds and cloudy skies were associated with a high pressure area which was centered over Ohio.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Twenty-Nine

12 October 1964
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 2000 to 2100 CDT

Dissemination: 2262.6 gm
Lot Size No. 1339-1

### Disseminator Feed Voltage Readings

5.3 v (entire experiment)

### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Tethered Radiosondes
Dissemination Site Winds (Speed missing)

WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds
Vertical Temperature Gradients on KMOX Tower

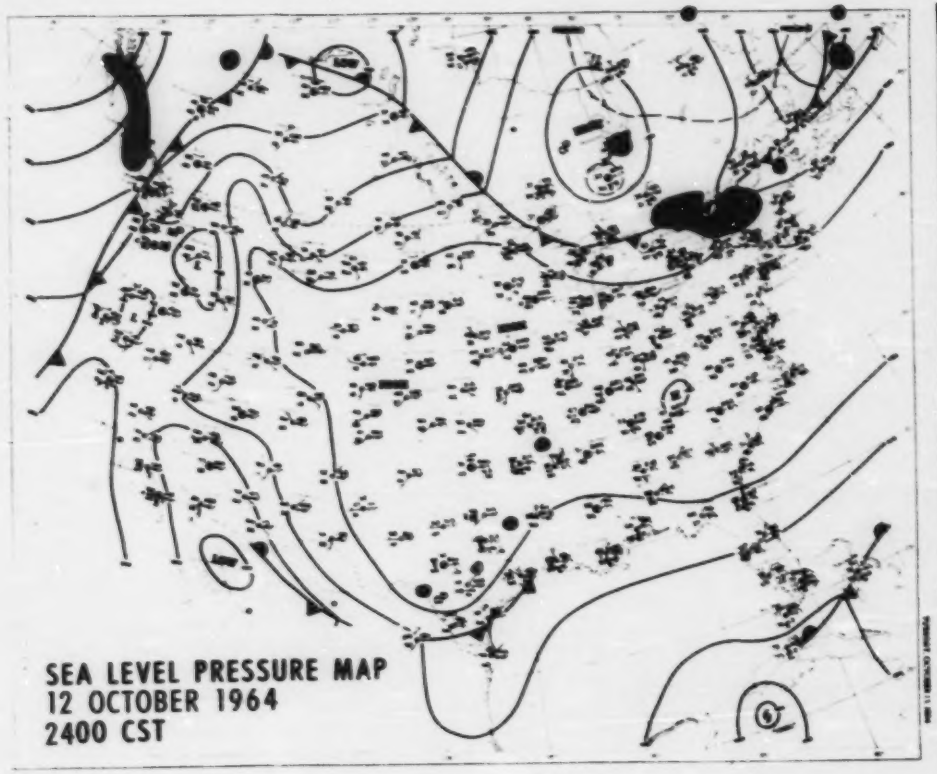
### Commentary

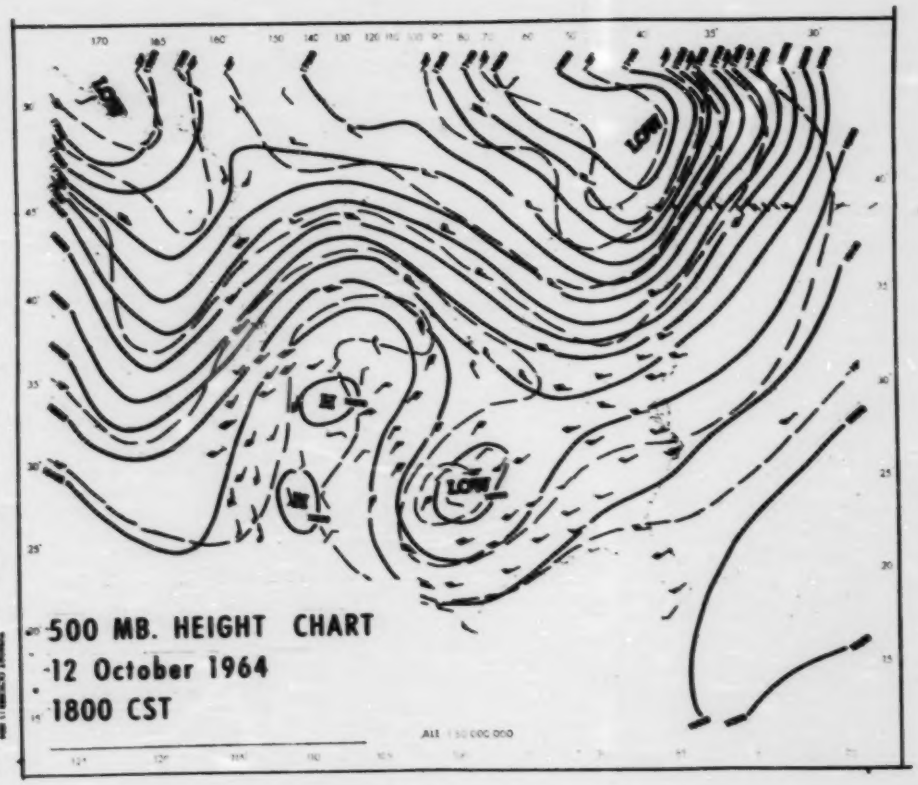
The tracer cloud almost completely missed the two outer sampling arcs; few useful results were obtained.

### Synoptic Situation

Light, variable winds and clear skies were associated with a weak pressure gradient.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

### Experiment Thirty

16 October 1964 — Dissemination Site: K. of C. Building — Dissemination: 1707.7 gm
Sampling Arcs: 4, 5, 6 — Dissemination from 2000 to 2100 CST — Lot Size No. 1339-2

#### Disseminator Feed Voltage Readings

5.0 v (entire dissemination)

#### Sampling Data

Total Surface Dosages — Sequential Surface Dosages — Dosages in the Vertical

#### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Tethered Radiosonde
Dissemination Site Winds

WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds (except lower level)
Vertical Temperature Gradients on KMOX Tower

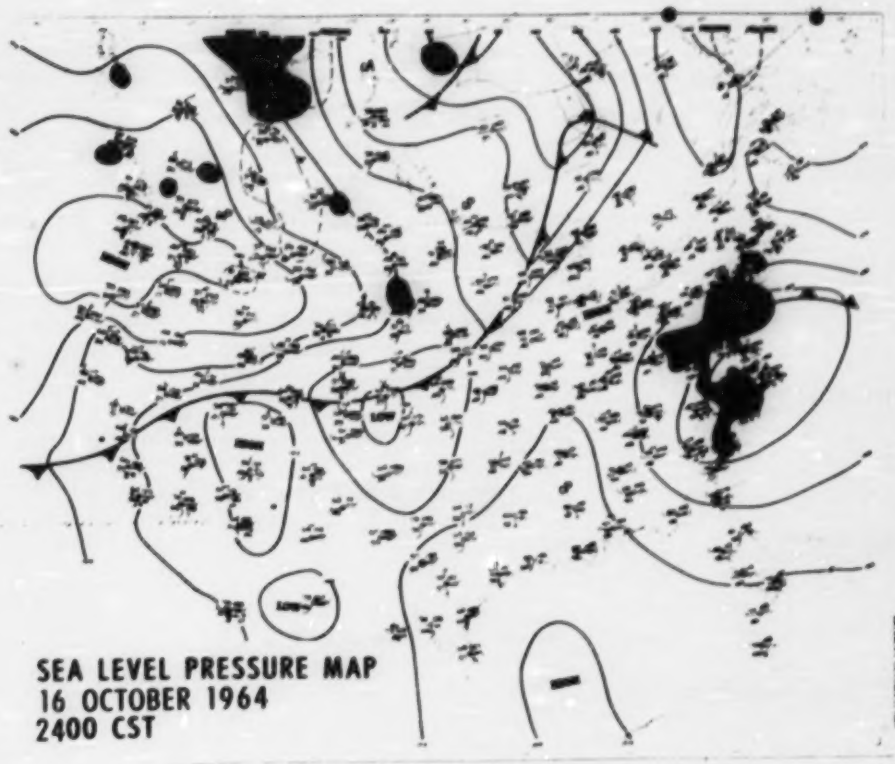
#### Commentary

The right side of the tracer cloud missed missed the sampling arcs. The samplers on the outer sampling arc may have been turned off before the last elements of the tracer cloud had reached them; significant loss of dosage was not considered to have occurred.

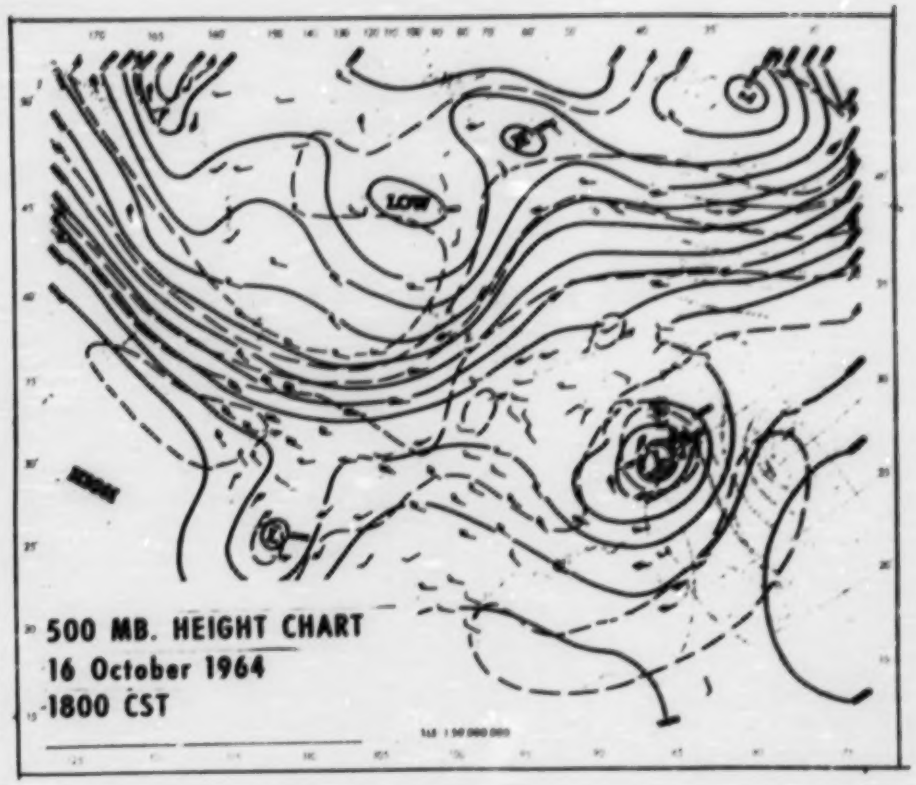
#### Synoptic Situation

Light southerly winds and clear skies existed in advance of a cold front.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



SEA LEVEL PRESSURE MAP
16 OCTOBER 1964
2400 CST




500 MB. HEIGHT CHART
16 October 1964
1800 CST

## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

### Experiment Thirty-One

17 October 1964
Sampling Arcs: 1,2/6,3,7

Dissemination Site: Forest Park
Dissemination from 1315 to 1415 CST

Dissemination: 7357.7 gm
Lot Size No. 1339-2, 1339-3[b]

#### Disseminator Feed Voltage Readings

13.0 v (entire dissemination)

#### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

#### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde
WBAS, Lambert Field

Outlying Station Winds
KMOX Tower Winds (except middle level)
Vertical Temperature Gradients on KMOX Tower

#### Commentary

Coverage of the tracer cloud by the sampling arcs was inadequate; few useful results were obtained. One sampler contained contamination dosage.

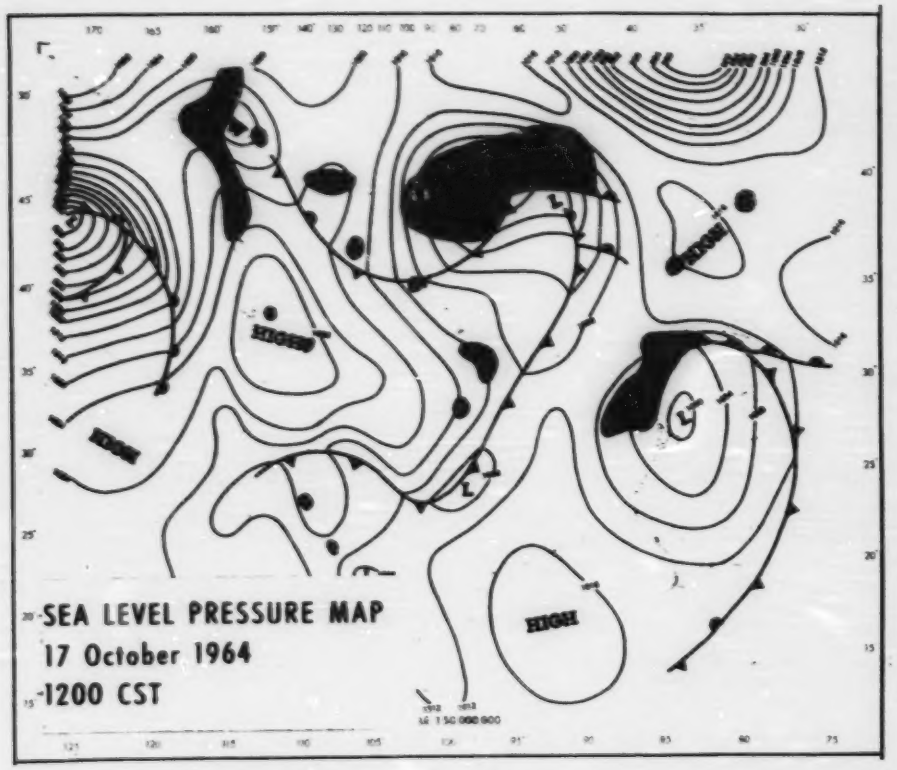
#### Synoptic Situation

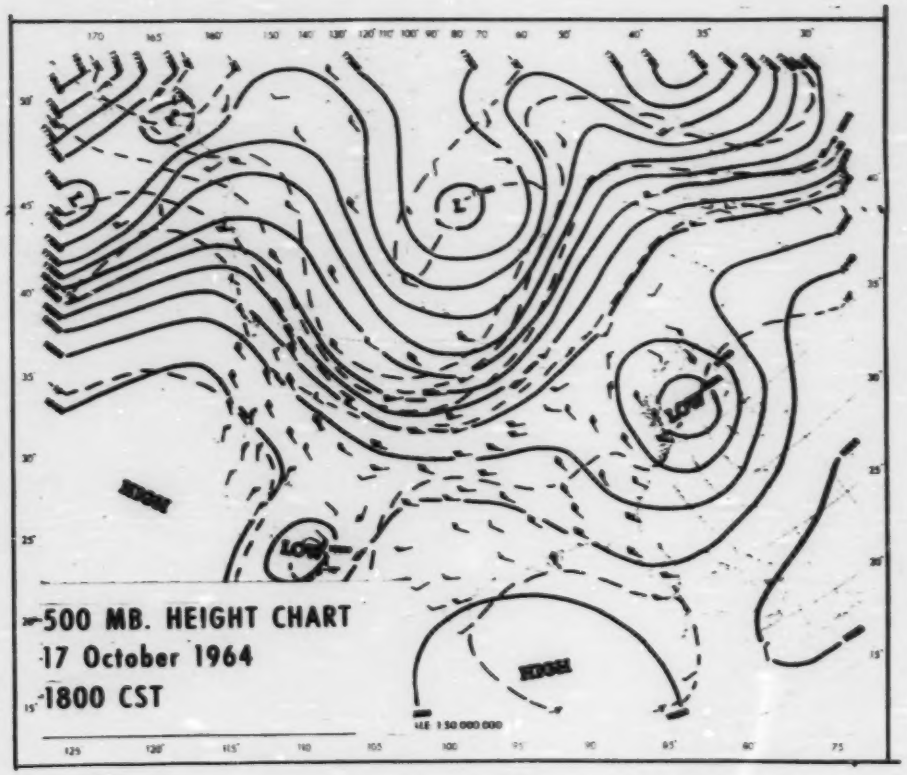
Light south southeasterly to south southwesterly winds and cloudy skies were associated with an advancing cold front which was situated over northwestern Missouri at 1200 CST.

---

[b] 7310.7 gm of 1339-2 and 47.0 gm of 1339-3.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

### Experiment Thirty-Two

19 October 1964
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 1945 to 2045 CST

Dissemination: 3724.0 gm
Lot Size No. 1339-3

#### Disseminator Feed Voltage Readings

6.5 v (entire dissemination)

#### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

Dosages in the Vertical

#### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Tethered Radiosonde
Dissemination Site Winds

WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds
Vertical Temperature Gradients on KMOX Tower

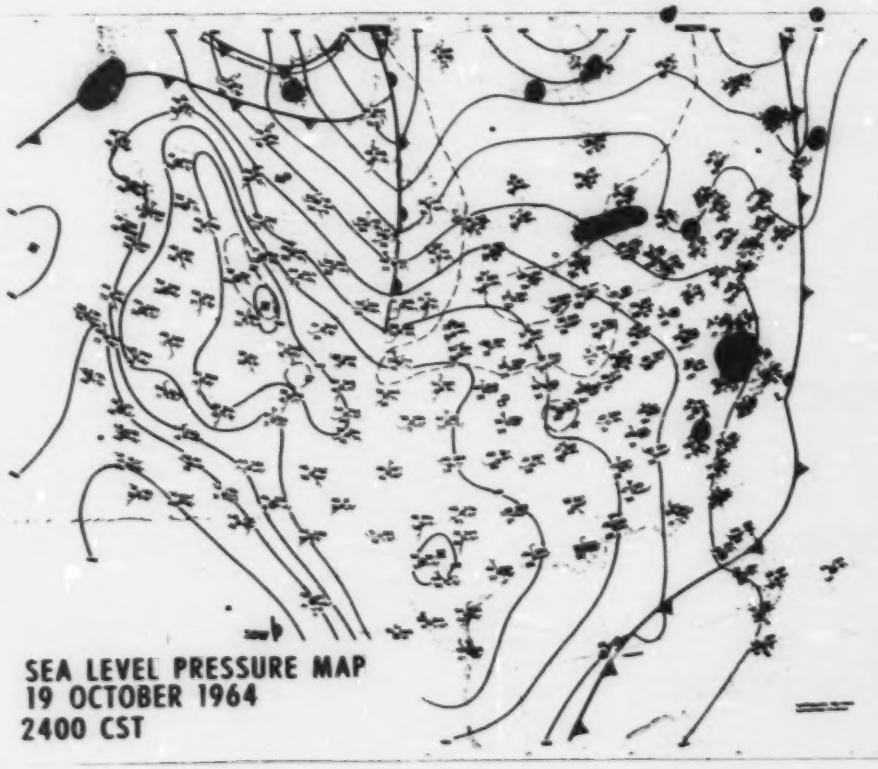
#### Commentary

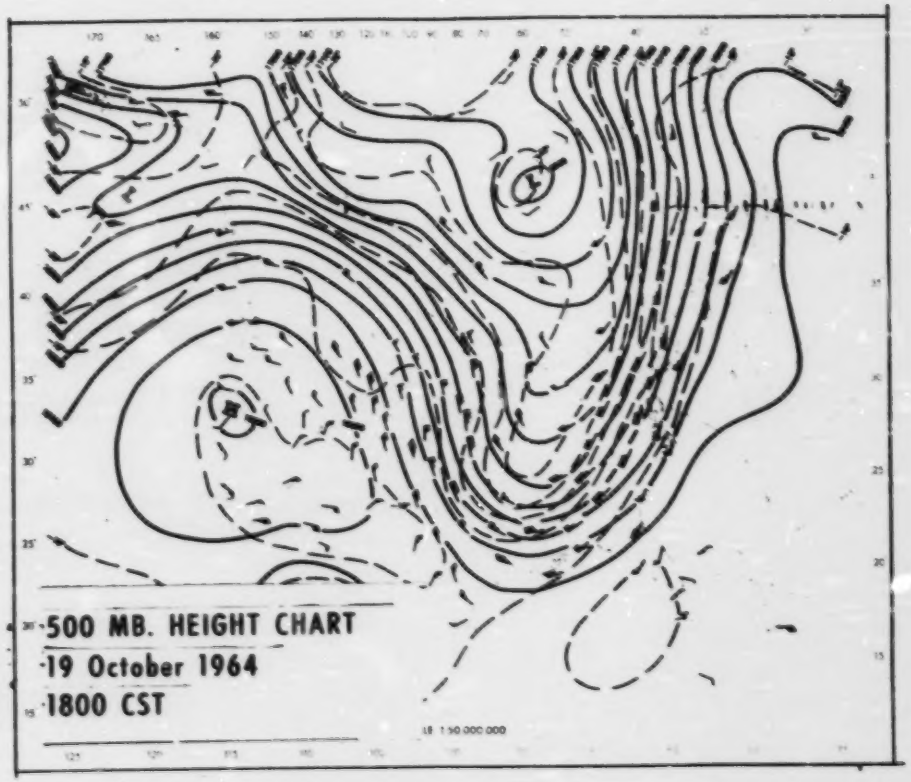
None.

#### Synoptic Situation

Decreasing northwesterly winds, partly cloudy skies, and weak cold air advection prevailed during the course of the experiment.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

### Experiment Thirty-Three

20 October 1964
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 1915 to 2015 CST

Dissemination: 3143.1 gm
Lot Size No. 1339-3

#### Disseminator Feed Voltage Readings

5.7 v (entire dissemination)

#### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

#### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Tethered Radiosonde
Dissemination Site Winds

WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds
Vertical Temperature Gradients on KMOX Tower

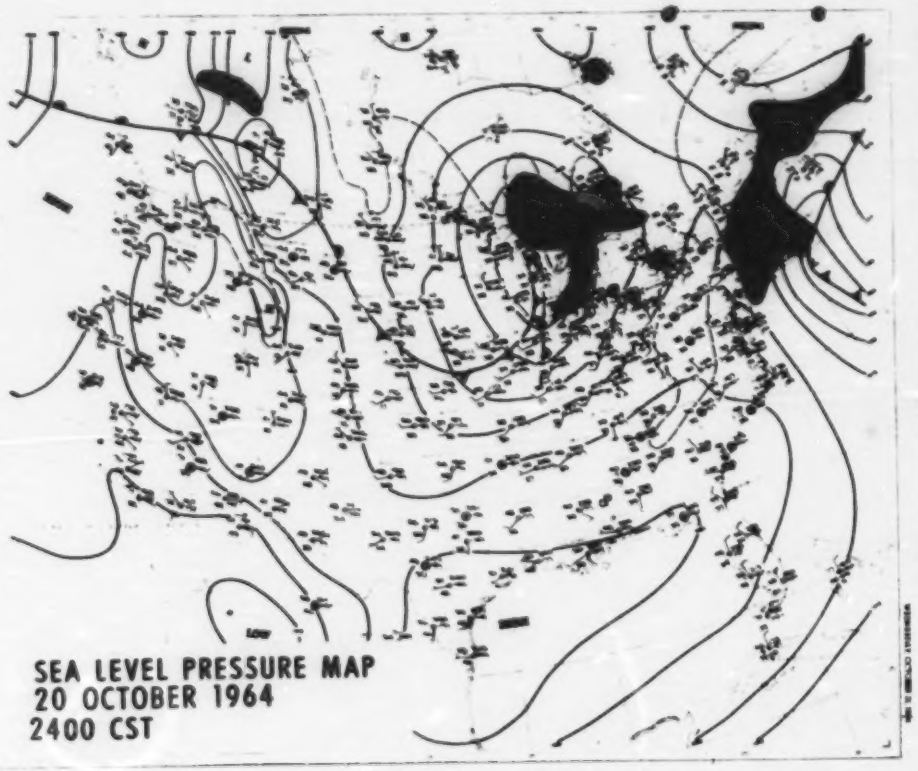
#### Commentary

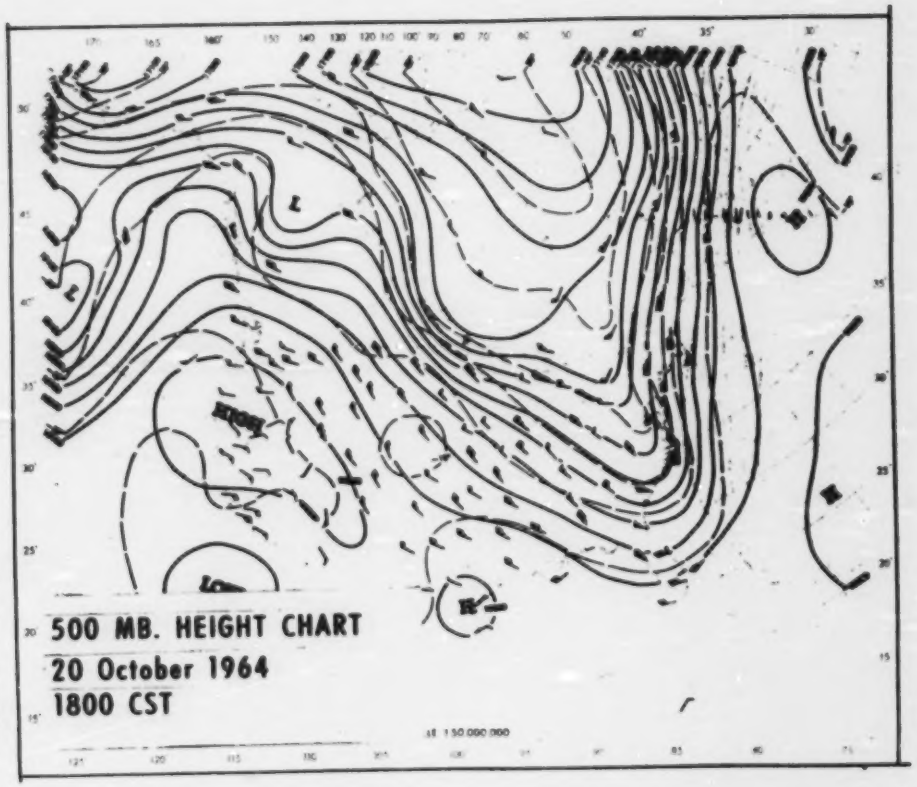
None

#### Synoptic Situation

Clear skies, warm air advection, and moderate southwesterly winds occurred in advance of a rapidly moving cold front.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

### Experiment Thirty-Four

21 October 1964
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 1920 to 2020 CST

Dissemination: 3661.2 gm
Lot Size No. 1339-3

#### Disseminator Feed Voltage Readings

6.3 v (entire dissemination)

#### Sampling Data

Total Surface Dosages (incomplete)

#### Meteorological Data

Pilot Balloons
CBI and PIA Rawinsondes
Dissemination Site Winds
WBAS, Lambert Field

Outlying Station Winds
KMOX Tower Winds
Vertical Temperature Gradients on KMOX Tower

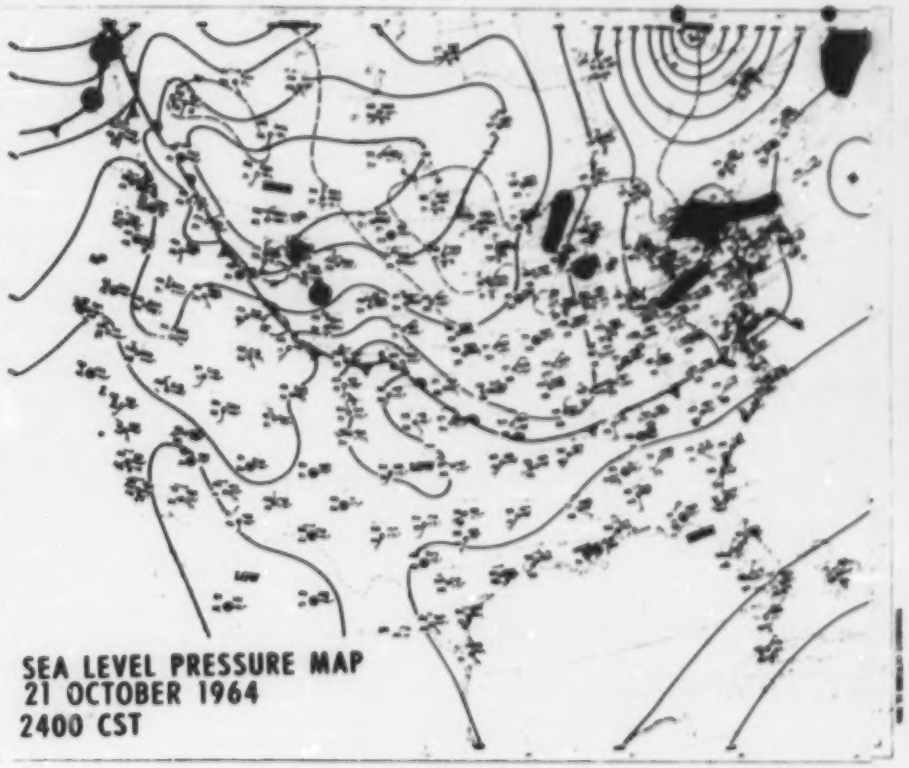
#### Commentary

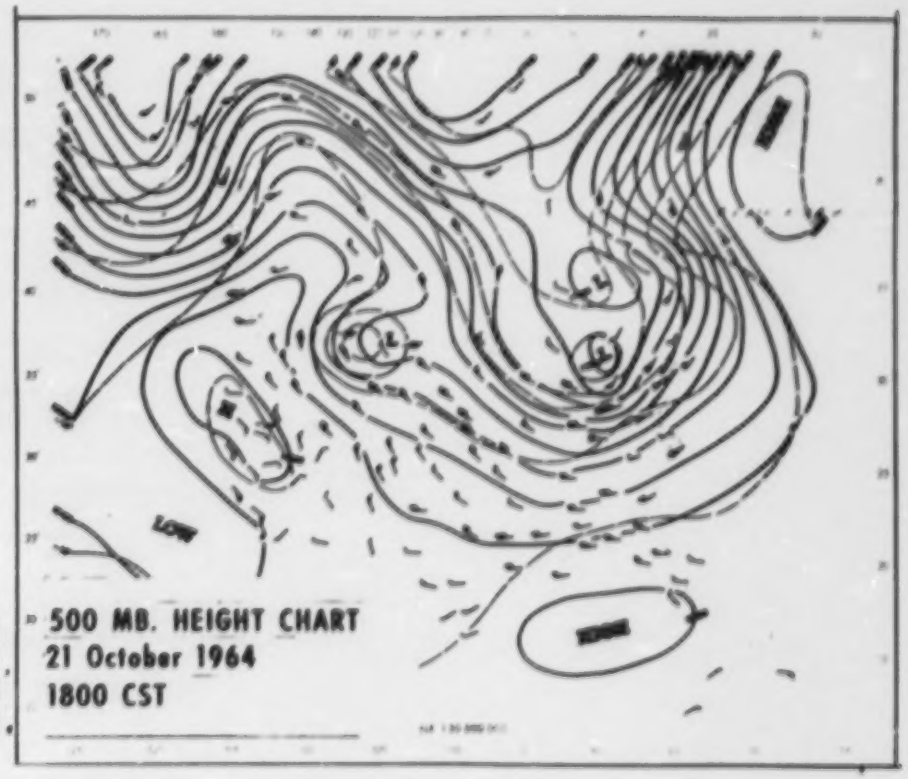
The tracer cloud almost completely missed the sampling arcs; few useful results were obtained.

#### Synoptic Situation

Clearing skies, cold air advection, and moderate north to northwesterly winds occurred following the passage of a cold front the previous evening.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

### Experiment Thirty-Five

6 March 1965
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 1230 to 1330 CST

Dissemination: 7166.8 gm
Lot Size No. 1339-3

#### Disseminator Feed Voltage Readings

14.5 v (1230 CST); 13.5 v (1245 CST); 11.0 v (1300 CST); 9.0 v (1315, 1330 CST)

#### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

#### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde
Dissemination Site Winds (Speed missing)

WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds
Vertical Temperature Gradients on KMOX Tower

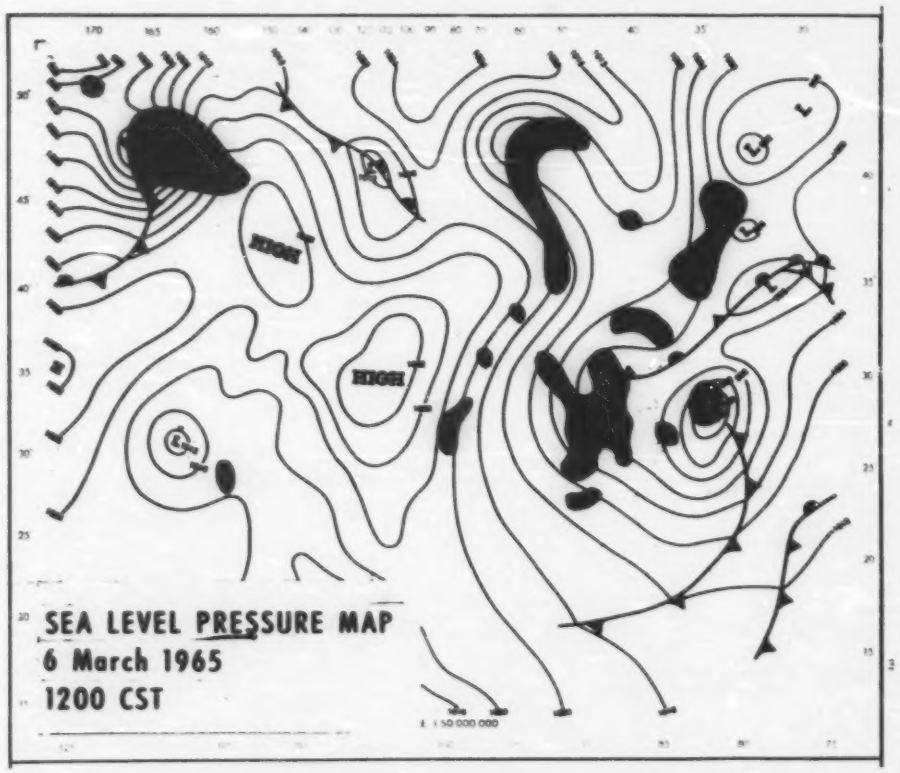
#### Commentary

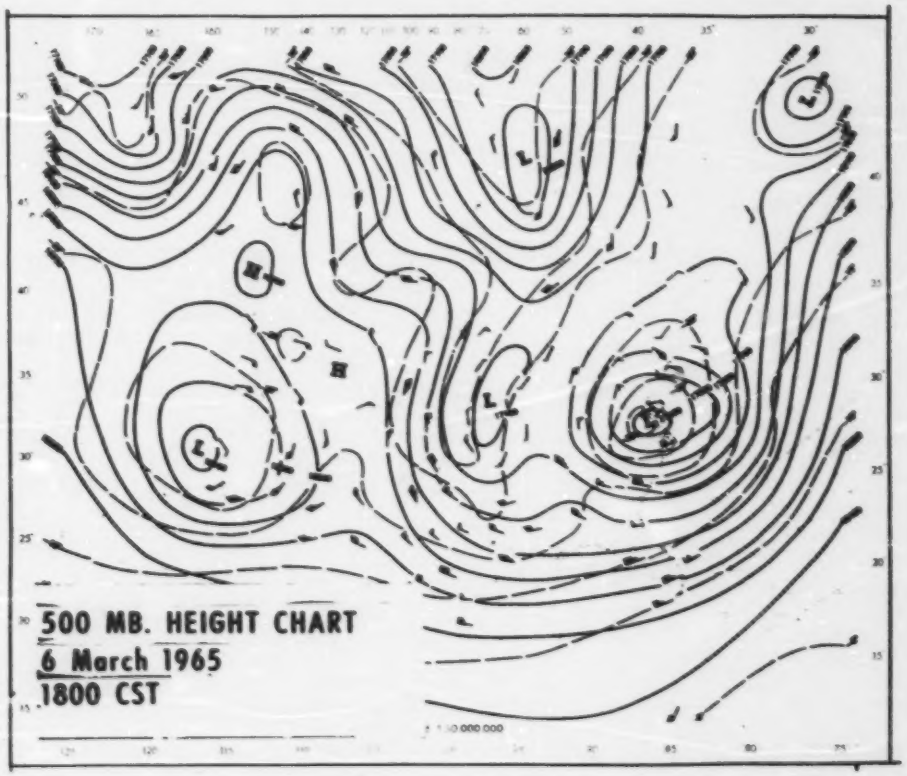
The tracer cloud was not well defined by the sampling arcs.

#### Synoptic Situation

Strong, gusty northwesterly winds and cloudy skies existed behind an easterly moving storm center. Snow flurries occurred during the early morning hours.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

### Experiment Thirty-Six

7 March 1965
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 1230 to 1330 CST

Dissemination: 4986.6 gm
Lot Size No. 1339-3

### Disseminator Feed Voltage Readings

10.5 v (1230 CST); 8.0 v (1245, 1300, 1315 CST)

### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

Dosages in the Vertical

### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde
Dissemination Site Winds (Speed missing)

WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds
Vertical Temperature Gradients on KMOX Tower

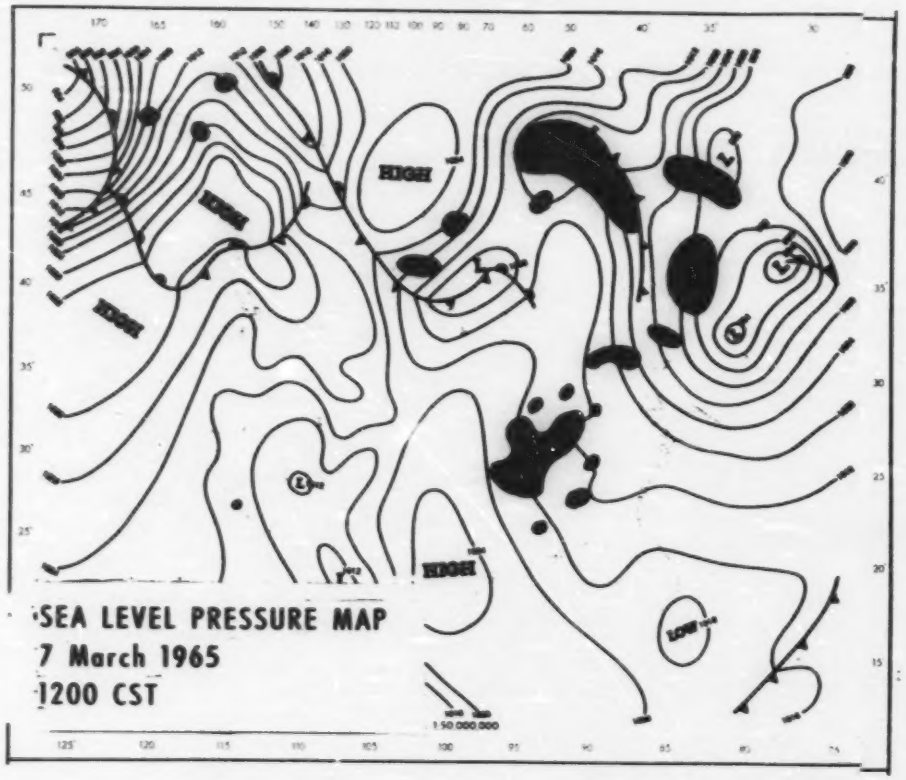
### Commentary

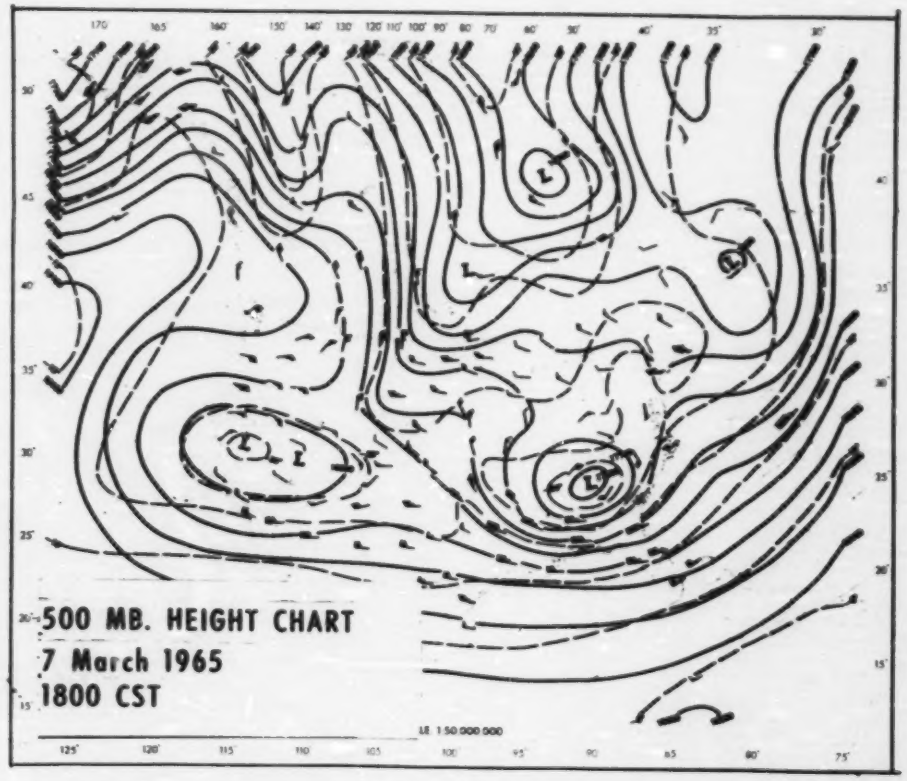
Snow fell during dissemination; the rate of fall was so slight that it is unlikely that any significant portion of the cloud was [illegible] by the snow.

### Synoptic Situation

Light to moderate northwesterly winds and snow flurries were associated with a deep vortex located northeast of St. Louis. About six inches of snow lay on the ground.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Thirty-Seven

8 March 1965
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 2030 to 2130 CST

Dissemination: 5398.9 gm
Lot Size No. 1339-3

### Disseminator Feed Voltage Readings

9.0 v (entire dissemination)

### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

### Meteorological Data

Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde
Dissemination Site Winds

WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds
Vertical Temperature Gradients on KMOX Tower

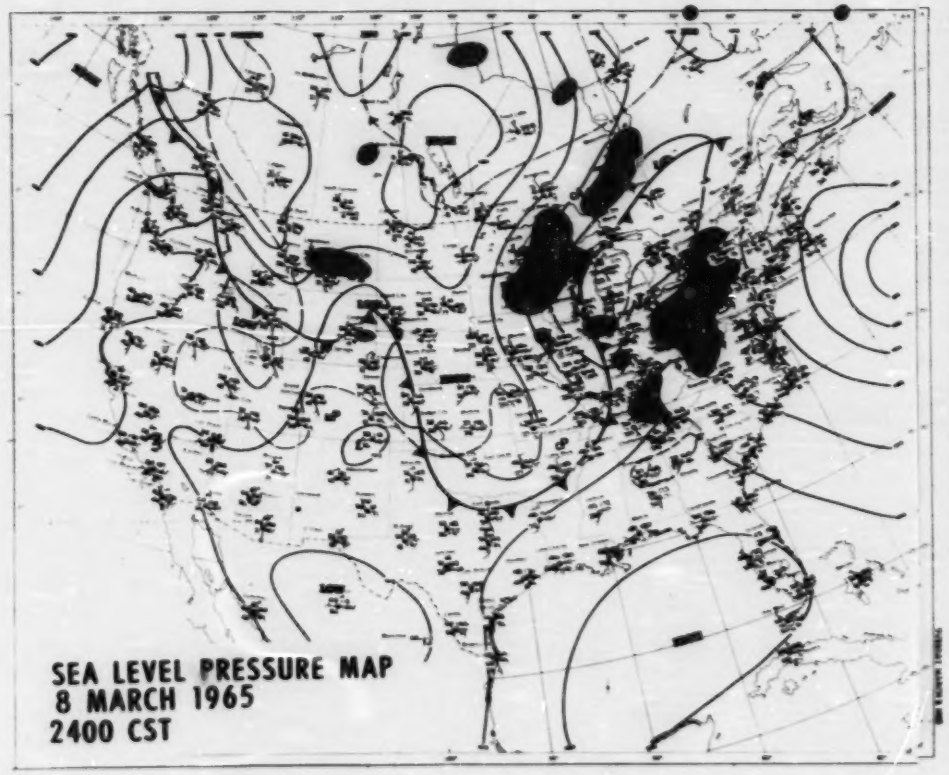
### Commentary

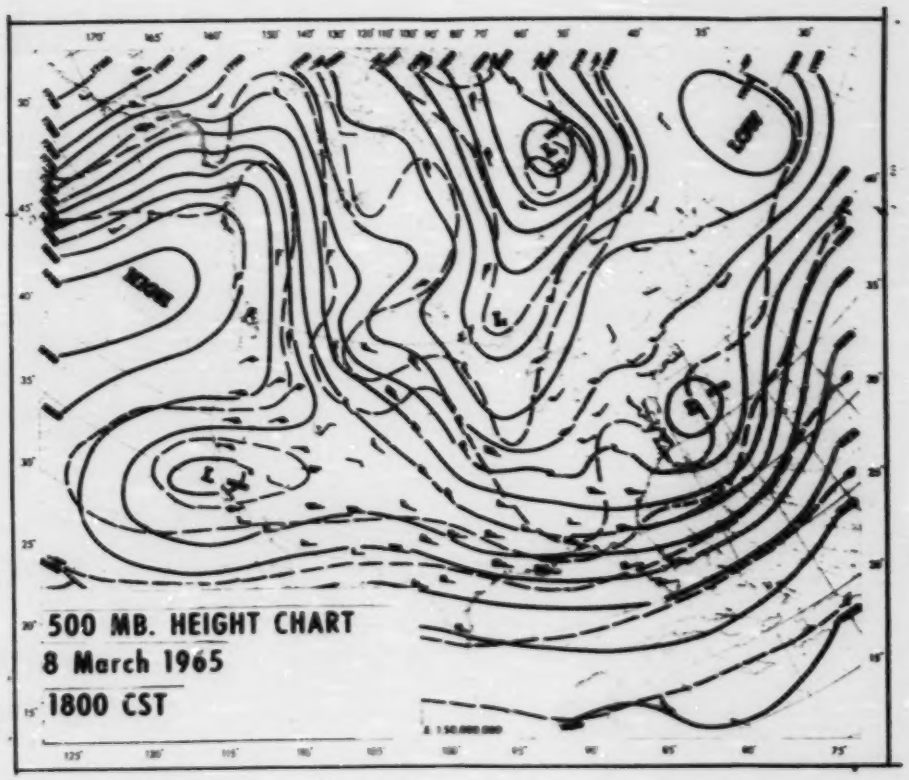
The left edge of the tracer cloud missed the sampling arcs.

### Synoptic Situation

Strong northwesterly winds and overcast skies existed following the passage of a strong cold front.

Table 1 (continued). EEXPERIMENT SUMMARY SHEETS



## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

### Experiment Thirty-Eight

11 March 1965
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 2030 to 2130 CST

Dissemination: 3479.3 gm
Lot Size No. 1339-2, 1339-3[c]

#### Disseminator Feed Voltage Readings

6.5 v (2030 CST); 6.0 v (2045, 2100, 2115, 2130 CST)

#### Sampler Data

Total Surface Dosages

Sequential Surface Dosages

#### Meteorological Data

Pilot Balloons
CBI and PIA Rawinsondes
Dissemination Site Winds
WBAS, Lambert Field

Outlying Station Winds
KMOX Tower Winds
Vertical Temperature Gradients on KMOX Tower

#### Commentary

The tracer cloud almost completely missed the sampling arcs; few useful data were obtained.

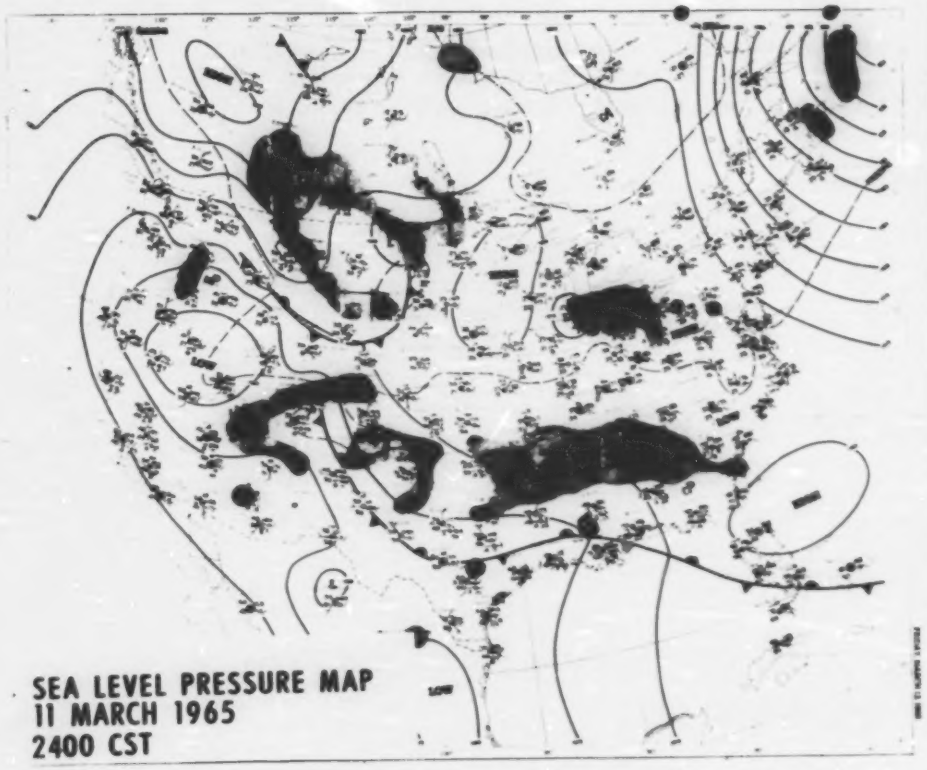
#### Synoptic Situation

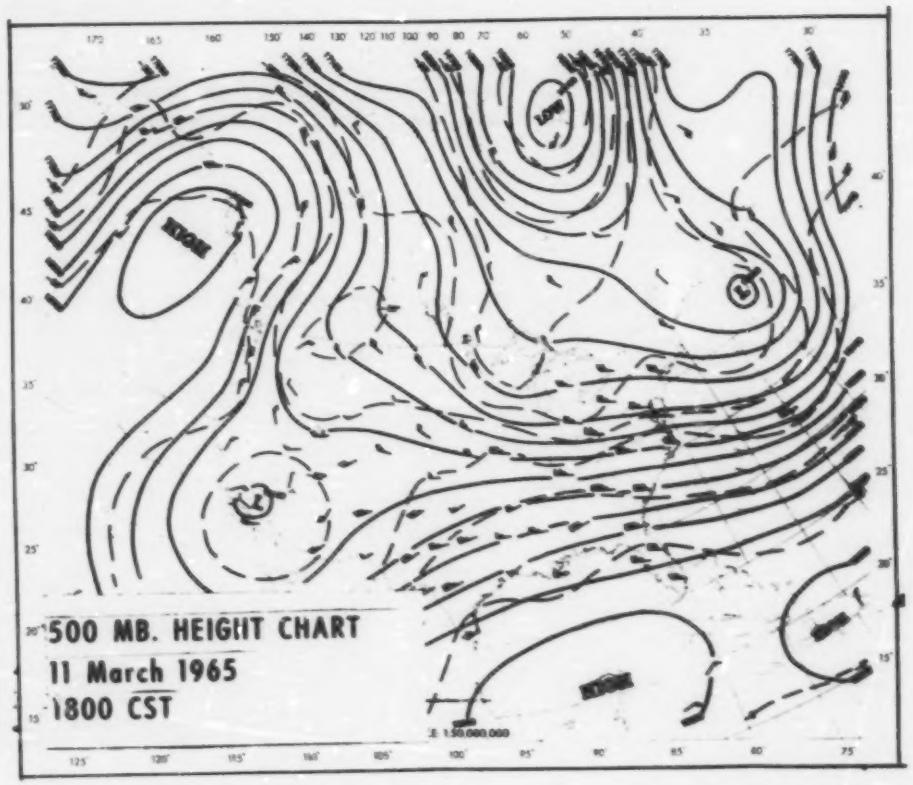
Cloudy skies and moderate winds existed in advance of a weak cold front.

---

[c] 2756.9 gm of 1339-2 and 722.4 gm of 1339-3.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

### Experiment Thirty-Nine

13 March 1965
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 1220 to 1320 CST

Dissemination: 8028.5 gm
Lot Size No. 1339-2

### Disseminator Feed Voltage Readings

14.5 v (1220, 1235, 1250 CST); 14.0 v (1305 CST)

### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

Dosages in the Vertical

### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde
Dissemination Site Winds

WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds
Vertical Temperature Gradients on KMOX Tower

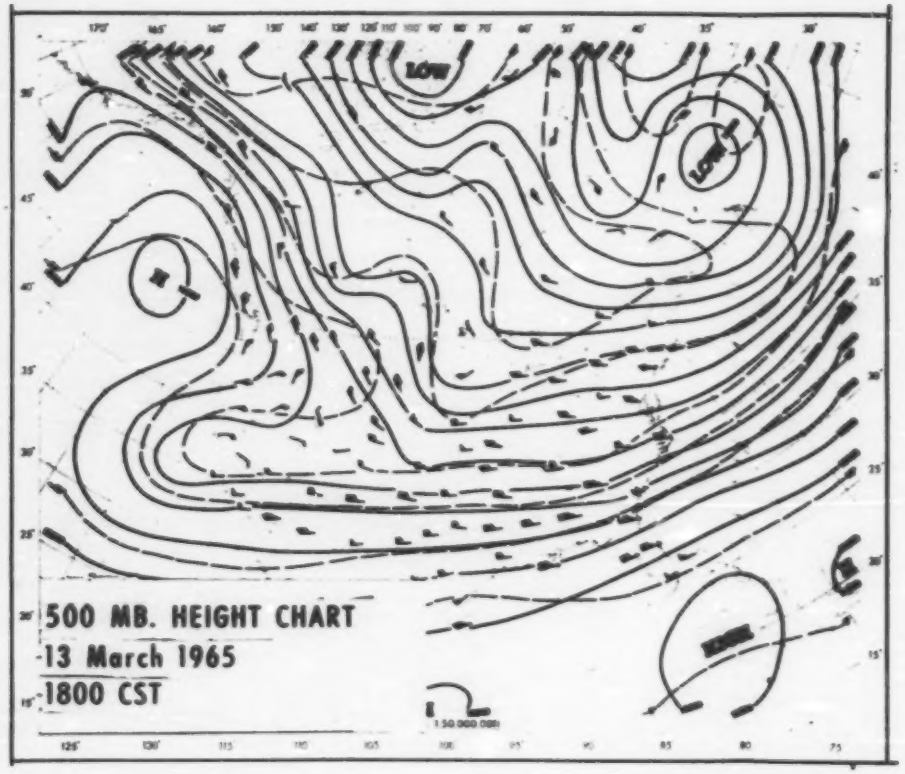
### Commentary

A portion of the tracer cloud missed the sampling arcs. The dosages of several samplers on the outer sampling arc were adjusted; these samplers appeared to have been turned off before the entire tracer cloud had reached them.

### Synoptic Situtation

Clearing skies and light, variable winds occurred in response to a high pressure area centered over Missouri.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Forty

14 March 1965
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 1100 to 1200 CST

Dissemination: 8426.7 gm
Lot Size No. H-454

Disseminator Feed Voltage Readings

15.5 v (1100 CST); 14.5 v (1115 CST); 14.0 v (1130, 1145 CST)

Sampling Data

Total Surface Dosages

Sequential Surface Dosages

Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde
Dissemination Site Winds

WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds
Vertical Temperature Gradients on KMOX Tower

Commentary

None.

Synoptic Situation

Partly cloudy skies and strong, gusty northwesterly winds persisted following the passage of a cold front about 0600 CST.

## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

### Experiment Forty-One

15 March 1965 | Dissemination Site: Forest Park | Dissemination: 2374.2 gm
Sampling Arcs: 1, 2, 3 | Dissemination from 2050 to 2150 CST | Lot Size No. H-454

#### Disseminator Feed Voltage Readings

6.0 v (2050 CST); 4.5 v (2105 CST); 3.5 v (2120, 2135 CST)

#### Sampling Data

Total Surface Dosages

Sequential Surface Dosages

#### Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Dissemination Site Winds
WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds
Vertical Temperature Gradients on KMOX Tower

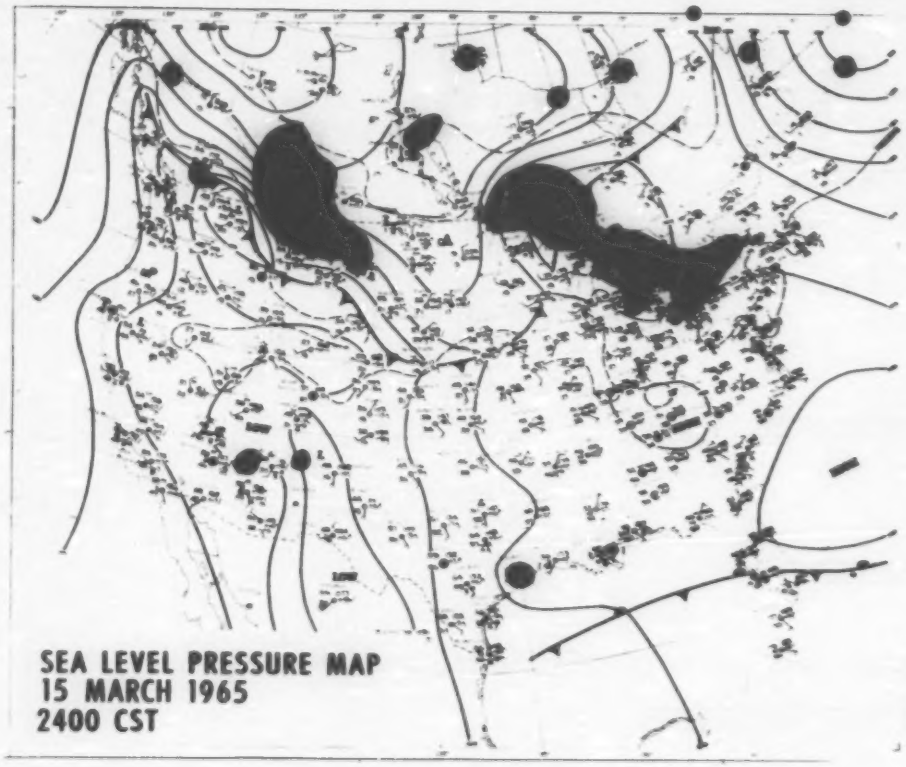
#### Commentary

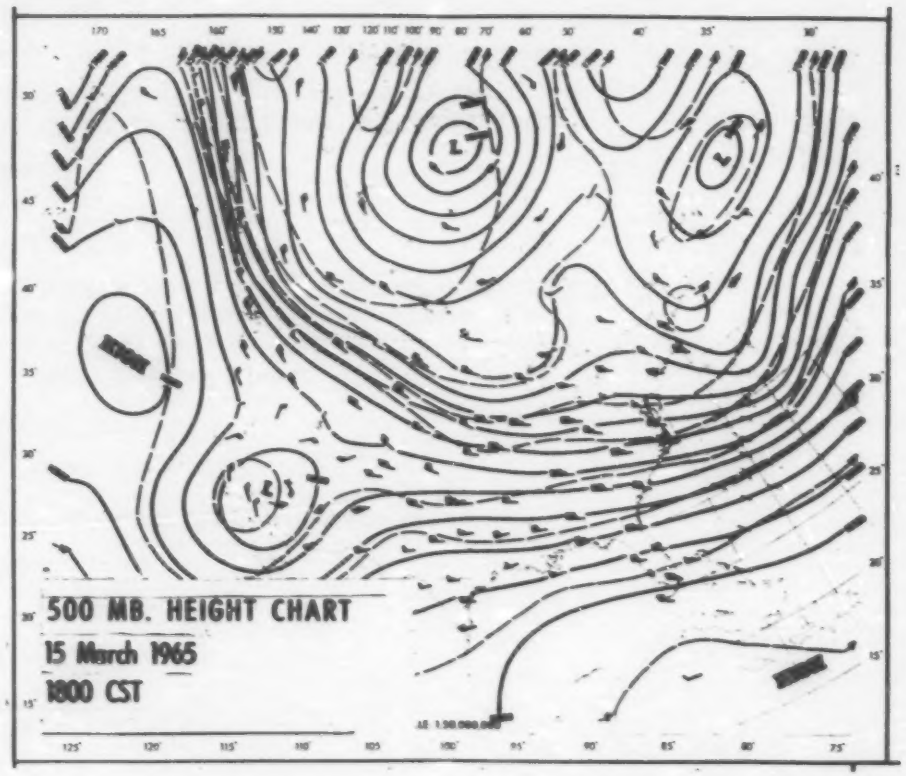
Dosages of several samplers on the two outer arcs were adjusted; the samplers appeared to have been turned off before the entire tracer cloud had reached them. The coverage of the tracer cloud by these two arcs is meager.

#### Synoptic Situation

Clearing skies and weak northwesterly winds were associated with a high pressure area centered over Eastern Tennessee.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Forty-Two

16 March 1965 | Dissemination Site: K. of C. Building | Dissemination: 3509.5 gm
Sampling Arcs: 4, 5, 6 | Dissemination from 2030 to 2130 CST | Lot Size No. H-454

Disseminator Feed Voltage Readings

8.5 v (2030 CST); 7.0 v (2045, 2100, 2115 CST)

Sampling Data

Total Surface Dosages

Sequential Surface Dosages

Meteorological Data

Tetroon
Pilot Balloons
CBI and PIA Rawinsondes
Dissemination Site Winds (Direction missing)

WBAS, Lambert Field
Outlying Station Winds
KMOX Tower Winds (except middle level)
Vertical Temperature Gradients on KMOX Tower

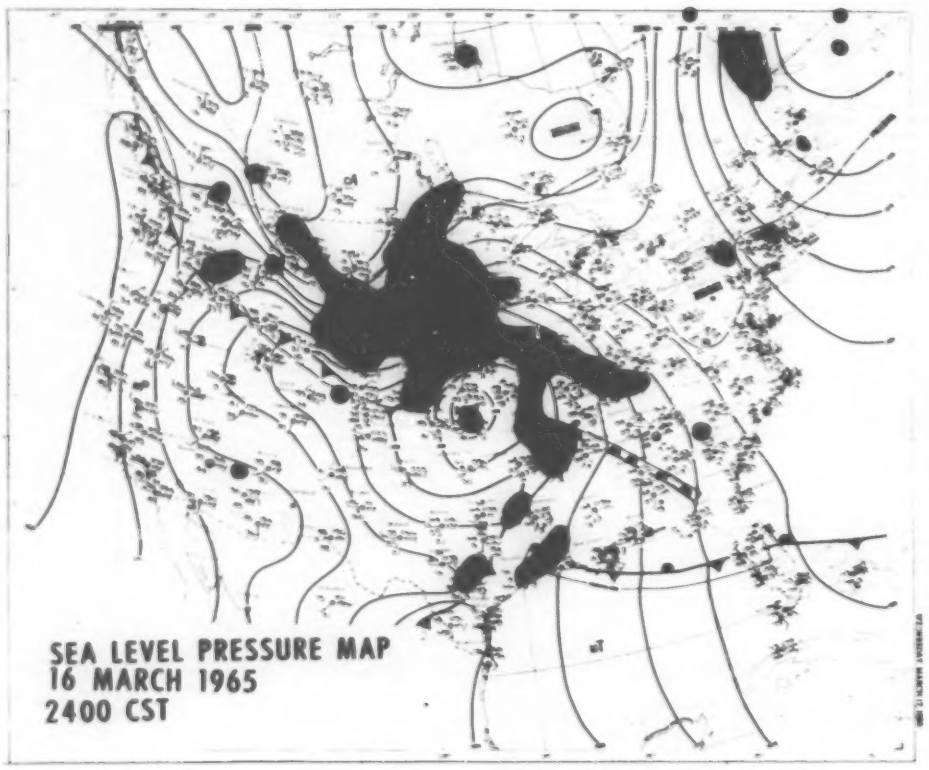
Commentary

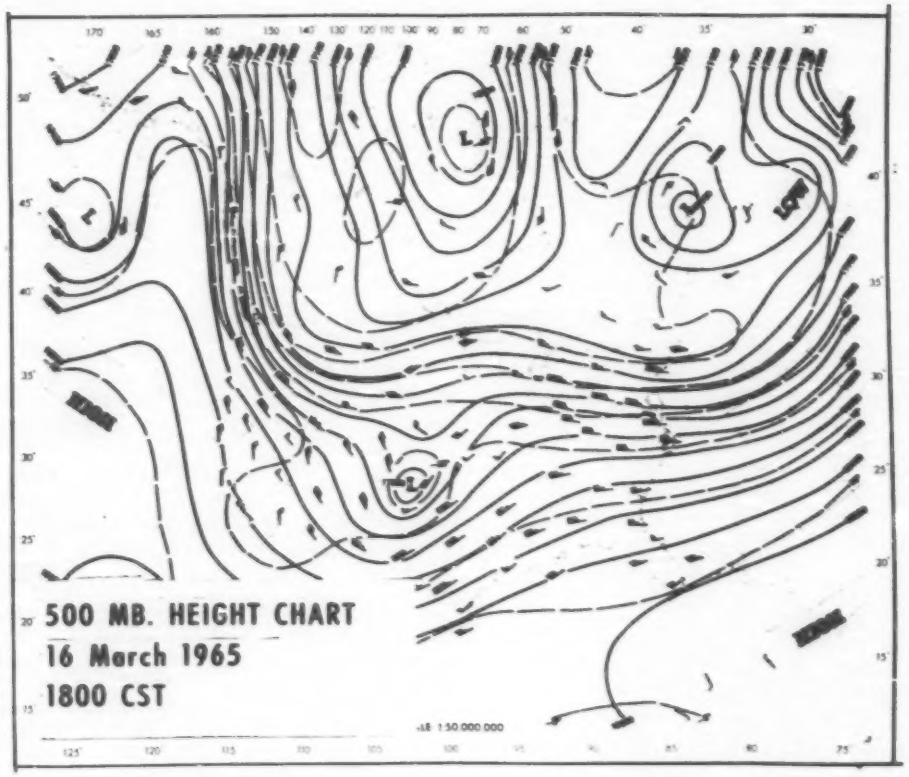
Two samplers contained contamination dosage. A few light rain sprinkles fell during the course of the experiment; significant dosage was not considered to have been washed out.

Synoptic Situation

Strong increasing southeasterly winds, cloudy skies, and light rain sprinkles occurred in advance of a deepening storm system over Kansas.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



## Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Forty-Three

17 March 1965
Sampling Arcs: 1, 2, 3

Dissemination Site: Forest Park
Dissemination from 2000 to 2100 CST

Dissemination: 6109.9 gm
Lot Size No. H-454

Disseminator Feed Voltage Readings

12.0 v (2000 CST); 10.0 v (2015 CST); 8.5 v (2030, 2045 CST)

Sampling Data

Total Surface Dosages

Sequential Surface Dosages

Meteorological Data

Pilot Balloons
CBI and PIA Rawinsondes
Dissemination Site Winds
WBAS, Lambert Field

Outlying Station Winds
KMOX Tower Winds
Vertical Temperature Gradient on KMOX Tower

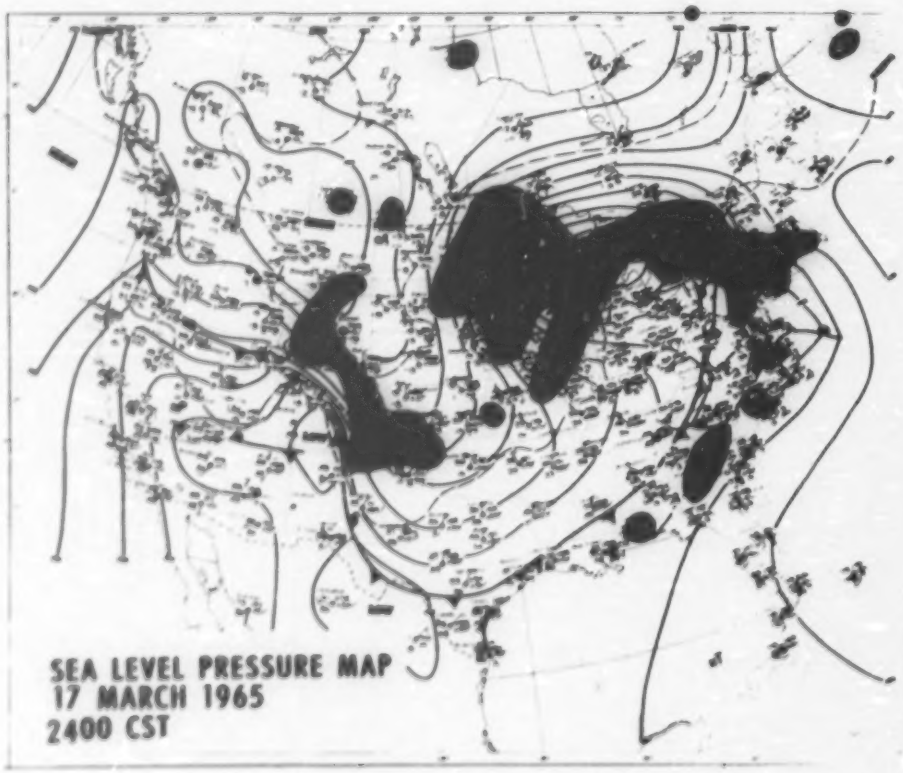
Commentary

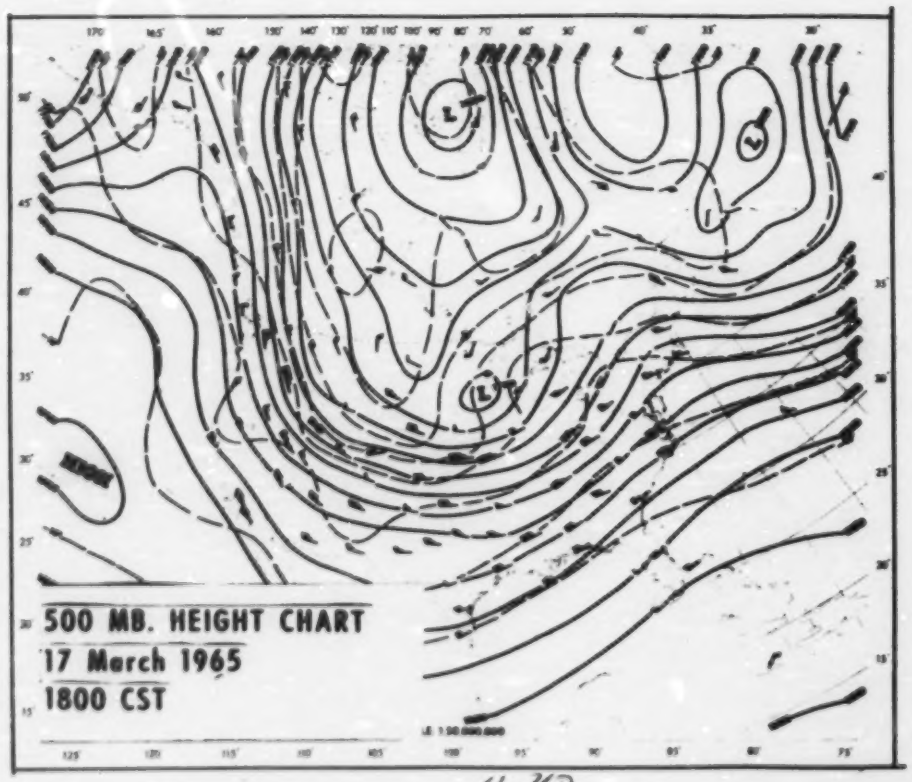
One sampler contained contamination dosage.

Synoptic Situation

The St. Louis area was under the influence of a low pressure cell centered over Michigan. Strong gusty northwesterly winds, cloudy skies and strong cold air advection existed during the experiment.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



## SAMPLER DOSAGE DATA

The sampler flow rate of Rotorod samplers was assumed constant at 41.3 liters per minute. Rotorod sampler efficiency depende on the size of the fluorescent particles and thus on the lot number. The sampler efficiency for each lot number used is listed in Table 2. Flow rates of drum-pulsed samplers are given in Table 3.

Table 2. ROTOROD SAMPLER EFFICIENCIES

| | Lot number | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1320 | 1339-1 | 1339-2 | 1339-3 | 1339-4 | 1339-5 | H-454 |
| Sampler efficiency | 0.61 | 0.61 | 0.61 | 0.61 | 0.60 | 0.60 | 0.59 |

The efficiencies were read from a calibration curve (Brown and Webster, 1964; Appendix E-1).

Table 3. FLOW RATES OF DRUM-PULSED SAMPLERS[a]

| | Sampler number | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 7 | 8 | 9 | 10 | 12 |
| Flow rate, liters/minute | 47.0 | 46.0 | 45.8 | 49.0 | 48.0 | 46.3 | 51.8 | 45.0 | 48.2 | 44.0 |

[a]Sampler efficiencies of the drum-pulsed samplers were assumed constant at 90%.

Dosage data obtained during the 43 experiments are presented in Tables 4 through 6.

Table 4 presents the total surface dosages provided by the Rotorod, membrane filter, and drum-pulsed samplers. To facilitate comparisons and possible computations, the table lists the arc upon which samplers were located, the azimuth in terms of true north, the range of the samplers from the tracer release site, and the time samplers were turned on and off. These times are reported to



Preceding page blank

the nearest whole minute for the Rotorod and membrane filter samplers and to the nearest second for the drum-pulsed sampler. Drum-pulsed samplers yielded a time resolution of the passage of tracer clouds in addition to the total dosages.

Table 5 lists sequential dosages provided by the drum-pulsed samplers and times of the end of sampling intervals. In each case the period of record begins with the first non-zero sample and ends with the last non-zero sample. Samples of 1-, 2-, or 4- minute duration were taken, depending on the distance from release site to the sampler and on existing meteorological conditions.

Table 6 lists the total dosages in the vertical provided by Rotorod samplers attached to tethered balloons. Heights above the surface of samplers were computed from (time) mean clinometer angles and length of tethering line between samplers and from the surface to the lowest sampler. The opposing but quantitatively unknown effects of stretch in the tethered line and curvature of the tethered line were neglected in these computations. Tethered sampling was not attempted in the daytime when the mean wind speed at balloon level was expected to exceed 20 mph or at night when the wind speed at balloon level was expected to exceed 25 mph. Total dosages were converted to equivalent concentrations by the equation:

$$X = 10^3 n/vet$$

where $X$ = equivalent concentration, particles per cubic meter
$n$ = number of particles (dosage)
$v$ = sampler flow rate, liters per minute
$e$ = efficiency of the sampler, decimal fraction
$t$ = duration of tracer release, minutes

TABLE 4. TOTAL DOSAGES AT SURFACE

Symbols

| | | |
|---|---|---|
| R(m) | : | Range to the nearest 10 meters of sampler from dissemination site |
| Dosage, Part | : | Number of (fluorescent) particles |
| X, Part/$m^3$ | : | Equivalent concentration, particles per cubic meter |
| RR | : | Rotorod sampler |
| MF | : | Membrane filter sampler |
| DP | : | Drum-pulsed sampler |
| Site A | : | Forest Park |
| Site B | : | Roof of the Knights of Columbus Building |

# Table 4 (continued). TOTAL DOSAGES AT SURFACE

23 May 1963 Experiment No. 1 No Tracer Released (Dry Run)

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. |
|---|---|---|---|---|---|---|
| 1 | 10.8 | 940 | RR | 1311 | 1325 | 1 |
| 1 | 22.7 | 980 | RR | 1307 | 1331 | 2 |
| 1 | 35.4 | 910 | MF | 1302 | 1334 | 2 |
| 1 | 43.7 | 960 | RR | 1300 | 1339 | 2 |
| 1 | 51.7 | 820 | MF | 1258 | 1343 | 0 |
| 1 | 68.9 | 850 | MF | 1244 | 1350 | 2 |
| 1 | 87.4 | 800 | MF | 1240 | 1356 | 0 |
| 1 | 105.7 | 770 | DP-8 | 1232 | 1401 | 0 |
| 1 | 122.1 | 680 | RR | 1230 | 1407 | 3 |
| 1 | 137.9 | 670 | MF | 1225 | 1411 | 2 |
| 2 | 31.6 | 3480 | RR | 1302 | 1310 | 4 |
| 2 | 42.9 | 3180 | RR | 1300 | 1317 | 1 |
| 2 | 60.2 | 3200 | MF | 1255 | 1324 | 2 |
| 2 | 77.3 | 3270 | RR | 1248 | 1331 | 3 |
| 2 | 122.6 | 3080 | MF | 1237 | 1300 | 2 |
| 2 | 138.7 | 3320 | MF | 1235 | 1352 | 0 |
| 2 | 154.1 | 3230 | RR | 1233 | 1354 | 2 |
| 2 | 167.0 | 3240 | RR | 1230 | 1358 | 1 |
| 2 | 181.8 | 3370 | RR | 1234 | 1405 | 2 |
| 3 | 19.6 | 6980 | RR | 1324 | 1341 | 0 |
| 3 | 32.5 | 7710 | RR | 1306 | 1348 | 0 |
| 3 | 41.6 | 7610 | RR | 1304 | 1352 | 1 |
| 3 | 55.1 | 7610 | MF | 1256 | 1358 | 10 |
| 3 | 67.6 | 7390 | MF | 1252 | 1404 | 2 |
| 3 | 88.2 | 7240 | RR | 1240 | 1423 | 0 |
| 3 | 104.8 | 6810 | DP-6 | 1240 | 1414 | 0 |
| 3 | 113.5 | 6410 | MF | 1245 | 1400 | 0 |
| 3 | 128.5 | 6670 | MF | 1251 | 1351 | 4 |
| 3 | 136.7 | 6250 | RR | 1257 | 1341 | 1 |
| 3 | 152.2 | 6780 | RR | 1300 | 1336 | 3 |
| 3 | 165.1 | 7450 | RR | 1305 | 1326 | 1 |
| 3 | 184.8 | 7170 | RR | 1312 | 1320 | 0 |

27 May 1963 Experiment No. 2 Tracer Release from Site A:1410 to 1440 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | $\chi$ Part./m$^3$ |
|---|---|---|---|---|---|---|---|
| 1 | 87.4 | 800 | RR | 1403 | 1601 | 6 | 8 |
| 1 | 115.7 | 770 | MF | 1405 | 1558 | 1712 | 6341 |
| 1 | 110.9 | 740 | MF | 1400 | 1553 | 1406 | 5207 |
| 1 | 118.0 | 770 | RR | 1358 | 1547 | 38837 | 51725 |
| 1 | 122.1 | 680 | RR | 1354 | 1546 | 64397 | 85767 |
| 1 | 137.9 | 670 | DP-4 | 1350:58 | 1535:40 | - [a] | - |
| 1 | 143.6 | 670 | RR | 1348 | 1524 | 18 | 24 |
| 1 | 147.8 | 630 | RR | 1348 | 1523 | 1 | 1 |
| 1 | 154.5 | 600 | MF | 1408 | 1515 | 0 | 0 |
| 1 | 171.4 | 580 | RR | 1340 | 1513 | 2 | 3 |
| 1 | 191.1 | 650 | RR | 1343 | 1510 | 1 | 1 |
| 2 | 95.0 | 2980 | RR | 1418 | 1518 | 0 | 0 |
| 2 | 101.6 | 3150 | RR | 1415 | 1520 | 34 | 45 |
| 2 | 122.6 | 3080 | MF | 1407 | 1531 | 1118 | 4141 |
| 2 | 129.1 | 3180 | RR | 1409 | 1537 | 4602 | 6129 |
| 2 | 134.2 | 3230 | RR | 1407 | 1541 | 162 | 216 |
| 2 | 138.7 | 3220 | DP-1 | 1403:00 | 1617:45 | 0 | 0 |
| 2 | 143.8 | 3250 | RR | 1358 | 1548 | 0 | 0 |
| 2 | 154.1 | 3230 | RR | 1353 | 1605 | 0 | 0 |
| 2 | 160.2 | 3180 | MF | 1351 | 1556 | 0 | 0 |
| 2 | 171.3 | 3240 | RR | 1349 | 1602 | 1 | 1 |
| 3 | 104.8 | 6810 | RR | 1430 | 1717 | 1 | 1 |
| 3 | 110.8 | 6490 | RR | 1427 | 1714 | 62 | 83 |
| 3 | 113.5 | 6410 | RR | 1424 | 1710 | 88 | 117 |
| 3 | 123.0 | 6360 | RR | 1421 | 1705 | 345 | 459 |
| 3 | 128.5 | 6670 | MF | 1416 | 1649 | 16 | 59 |
| 3 | 131.4 | 6470 | RR | 1410 | 1643 | 0 | 0 |
| 3 | 136.7 | 6250 | DP-3 | 1407:10 | 1631:10 | 0 | 0 |
| 3 | 142.0 | 6180 | MF | 1400 | 1623 | 0 | 0 |
| 3 | 152.2 | 6780 | MF | 1357 | 1618 | 0 | 0 |
| 3 | 157.7 | 7360 | RR | 1354 | 1613 | 0 | 0 |
| 3 | 165.1 | 7450 | RR | 1351 | 1610 | 1 | 1 |
| 3 | 184.8 | 7170 | RR | 1342 | 1603 | 0 | 0 |

[a] Collector tape damaged; no data obtained.

## Table 4 (continued). TOTAL DOSAGES AT SURFACE

28 May 1963 Experiment No. 3 Tracer Release from Site A:1000 to 1100 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m$^3$ |
|---|---|---|---|---|---|---|---|
| 1 | 60.9 | 790 | RR | 0959 | 1205 | 2 | 1 |
| 1 | 80.6 | 780 | MF | 0954 | 1202 | 11776 | 21808 |
| 1 | 87.4 | 800 | MF | 0951 | 1154 | 20740 | 38408 |
| 1 | 94.8 | 750 | RR | 0948 | 1150 | 64671 | 43066 |
| 1 | 105.7 | 770 | DP-4 | 0943:40 | 1109:40 | 203474 | 76899 |
| 1 | 110.4 | 740 | MF | 0940 | 1126 | 31010 | 57427 |
| 1 | 118.0 | 770 | RR | 0937 | 1137 | 40540 | 26997 |
| 1 | 122.1 | 680 | RR | 0935 | 1140 | 9931 | 6613 |
| 1 | 137.9 | 670 | RR | 0929 | 1145 | 1 | 1 |
| 2 | 65.4 | 3470 | RR | 1004 | 1220 | 6 | 4 |
| 2 | 83.9 | 3150 | RR | 0959 | 1214 | 192 | 128 |
| 2 | 88.4 | 3070 | RR | 0956 | 1209 | 2311 | 1539 |
| 2 | 95.0 | 2980 | MF | 0955 | 1205 | 1064 | 1970 |
| 2 | 101.6 | 3150 | RR | 0952 | 1202 | 13712 | 9131 |
| 2 | 112.0 | 3110 | DP-1 | 0950:00 | 1150:32 | 5743 | 2263 |
| 2 | 122.6 | 3080 | MF | 0946 | 1143 | 8 | 1137 |
| 2 | 129.1 | 3180 | MF | 0942 | 1137 | 2 | 4 |
| 2 | 134.2 | 3230 | RR | 0940 | 1144 | 0 | 0 |
| 2 | 143.8 | 3250 | RR | 0938 | 1133 | 0 | 0 |
| 3 | 79.4 | 7430 | RR | 1019 | 1312 | 4 | 3 |
| 3 | 84.7 | 7240 | RR | 1015 | 1306 | 9 | 6 |
| 3 | 88.2 | 7240 | RR | 1009 | 1300 | 90 | 60 |
| 3 | 94.2 | 7040 | RR | 1004 | 1254 | 603 | 402 |
| 3 | 104.8 | 6810 | MF | 1001 | 1246 | 456 | 844 |
| 3 | 110.8 | 6490 | DP-3 | 0955:40 | 1235:40 | 1979 | 800 |
| 3 | 113.5 | 6410 | MF | 0951 | 1227 | 148 | 274 |
| 3 | 123.0 | 6360 | MF | 0947 | 1220 | 614 | 15 |
| 3 | 128.5 | 6670 | RR | 0940 | 1215 | 1 | 1 |
| 3 | 136.7 | 6250 | RR | 0936 | 1208 | 0 | 0 |

19 July 1963 Experiment No. 4 Tracer Release from Site A:1130 to 1230 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m$^3$ |
|---|---|---|---|---|---|---|---|
| 1 | 19.5 | 970 | RR | 1128 | 1236 | 1239 | 838 |
| 1 | 29.6 | 930 | MF | 1127 | 1242 | 8256 | 15289 |
| 1 | 35.4 | 910 | MF | 1126 | 1246 | 9742 | 18041 |
| 1 | 41.1 | 980 | RR | 1125 | 1325 | 34158 | 23090 |
| 1 | 43.7 | 960 | RR | 1125 | 1324 | 45162 | 30528 |
| 1 | 45.1 | 910 | MF | 1123 | 1316 | 31390 | 58131 |
| 1 | 51.7 | 820 | DP-3 | 1118:00 | 1328:50 | -[b] | - |
| 1 | 60.9 | 790 | MF | 1115 | 1334 | 31528 | 58387 |
| 1 | 68.9 | 850 | MF | 1113 | 1337 | 31058 | 57518 |
| 1 | 75.4 | 870 | RR | 1104 | 1339 | 10272 | 6944 |
| 1 | 87.4 | 800 | RR | 1103 | 1343 | 4782 | 3232 |
| 2 | 18.5 | 3400 | RR | 1208 | 1301 | 2[c] | 2 |
| 2 | 31.6 | 3480 | MF | 1214 | 1308 | 42[c] | 78 |
| 2 | 36.4 | 3330 | MF | 1127 | 1315 | 442 | 819 |
| 2 | 42.0 | 3410 | RR | 1125 | 1326 | 960 | 649 |
| 2 | 48.6 | 3400 | RR | 1121 | 1333 | 8286 | 5601 |
| 2 | 53.6 | 3200 | RR | 1119 | 1337 | 7410 | 5009 |
| 2 | 65.4 | 3470 | DP-5 | 1115:00 | 1347:00 | 3425 | 1321 |
| 2 | 68.5 | 3260 | RR | 1110 | 1410 | 1534 | 1037 |
| 2 | 72.3 | 3230 | RR | 1150 | 1405 | 293[c] | 198 |
| 2 | 79.3 | 3270 | RR | 1159 | 1418 | 12[c] | 8 |
| 2 | 83.9 | 3150 | RR | 1157 | 1424 | 24[c] | 16 |
| 3 | 19.6 | 6980 | RR | 1104 | 1413 | 0 | 0 |
| 3 | 25.4 | 7230 | RR | 1110 | 1410 | 0 | 0 |
| 3 | 32.5 | 7710 | RR | 1116 | 1403 | 2 | 2 |
| 3 | 37.7 | 7690 | RR | 1119 | 1401 | 4 | 3 |
| 3 | 43.6 | 7590 | MF | 1121 | 1357 | 82 | 152 |
| 3 | 48.7 | 7670 | DP-4 | 1124:55 | 1349:55 | -[d] | - |
| 3 | 55.1 | 7610 | MF | 1130 | 1344 | -[e] | - |
| 3 | 61.6 | 7590 | MF | 1138 | 1340 | 246 | 456 |
| 3 | 67.4 | 7560 | RR | 1141 | 1337 | 13 | 9 |
| 3 | 73.5 | 7520 | RR | 1143 | 1335 | 0 | 0 |
| 3 | 79.4 | 7430 | RR | 1145 | 1333 | 0 | 0 |
| 3 | 87.4 | 7240 | RR | 1150 | 1330 | 2 | 2 |

[b] Collector tape damaged; no data obtained.

[c] Samplers probably not in operation until after initial elements of tracer cloud reached them; loss in dosage not considered to be significant and thus no revision in listed measured dosages made.

[d] Collector tape damaged; no data obtained.

[e] Sampler damaged; no data obtained.

## Table 4 (continued). TOTAL DOSAGES AT SURFACE

23 July 1963 Experiment No. 5 Tracer Release from Site B:1104 to 1204 CST

| Arc | Azimuth (d e g) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m$^3$ |
|---|---|---|---|---|---|---|---|
| 4 | 346.7 | 1970 | RR | 1030 | 1223 | 4478 | 3027 |
| 4 | 355.5 | 1910 | MF | 1032 | 1227 | 348 | 644 |
| 4 | 4.7 | 2020 | MF | 1036 | 1231 | 416 | 770 |
| 4 | 15.5 | 1870 | MF | 1038 | 1236 | 1056 | 1956 |
| 4 | 15.5 | 1870 | RR | 1039 | 1233 | 3816 | 2580 |
| 4 | 20.8 | 1920 | RR | 1044 | 1243 | 3780 | 2555 |
| 4 | 27.6 | 1970 | DP-2 | 1046:30 | 1245:30 | 1802[f] | 734 |
| 4 | 33.1 | 1940 | RR | 1047 | 1247 | 186 | 126 |
| 4 | 40.0 | 1930 | RR | 1052 | 1255 | 0 | 0 |
| 4 | 50.6 | 1890 | MF | 1055 | 1257 | 0 | 0 |
| 4 | 61.4 | 2010 | MF | 1056 | 1303 | 0 | 0 |
| 4 | 73.0 | 1980 | RR | 1100 | 1308 | 0 | 0 |
| 5 | 349.3 | 4310 | RR | 1110 | 1249 | 3037 | 2053 |
| 5 | 359.3 | 4090 | MF | 1113 | 1257 | 296[g] | 548 |
| 5 | 11.0 | 4180 | RR | 1123 | 1316 | 1434 | 969 |
| 5 | 19.6 | 4300 | RR | 1104 | 1321 | 620 | 419 |
| 5 | 23.0 | 4420 | RR | 1100 | 1323 | 780 | 527 |
| 5 | 31.9 | 4260 | RR | 1054 | 1329 | 256 | 173 |
| 5 | 35.2 | 4230 | RR | 1051 | 1333 | 15 | 10 |
| 5 | 42.1 | 4120 | MF | 1048 | 1339 | 0[h] | 0 |
| 5 | 46.9 | 4210 | RR | 1043 | 1347 | 0 | 0 |
| 5 | 59.0 | 4170 | RR | 1037 | 1353 | 0 | 0 |
| 5 | 71.7 | 4080 | RR | 1033 | 1359 | 1 | 1 |
| 6 | 346.7 | 8100 | RR | 1126 | 1324 | 777 | 525 |
| 6 | 357.7 | 8070 | RR | 1120 | 1330 | 1418 | 959 |
| 6 | 13.4 | 7920 | RR | 1113 | 1337 | 1085 | 733 |
| 6 | 20.9 | 8170 | DP-4 | 1106:35 | 1342:35 | 836 | 316 |
| 6 | 23.9 | 8160 | MF | 1055 | 1355 | 258 | 478 |
| 6 | 23.9 | 8160 | RR | 1057 | 1357 | 667 | 451 |
| 6 | 33.6 | 8200 | DP-3 | 1046:45 | 1402:45 | 225 | 91 |
| 6 | 39.8 | 7630 | RR | 1040 | 1415 | 27 | 18 |

23 July 1966 Experiment No. 6 Tracer Release from Site B:1130 to 1230 CST

| Arc | Azimuth (d e g) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m$^3$ |
|---|---|---|---|---|---|---|---|
| 4 | 286.2 | 1880 | MF | 1052 | 1303 | 164 | 304 |
| 4 | 307.2 | 1930 | MF | 1054 | 1307 | 1302 | 2411 |
| 4 | 315.6 | 2140 | RR | 1059 | 1313 | 3338 | 2256 |
| 4 | 346.7 | 1970 | RR | 1104 | 1320 | 0 | 0 |
| 4 | 355.5 | 1910 | DP-2 | 1106:00 | 1324:30 | 0 | 0 |
| 4 | 004.7 | 2020 | MF | 1109 | 1348 | 0 | 0 |
| 4 | 015.5 | 1870 | MF | 1114 | 1337 | 0 | 0 |
| 4 | 020.8 | 1920 | RR | 1115 | 1339 | 0 | 0 |
| 4 | 027.6 | 1970 | MF | 1117 | 1343 | 0 | 0 |
| 4 | 040.0 | 1930 | RR | 1119 | 1347 | 0 | 0 |
| 5 | 305.5 | 4250 | RR | 1048 | 1339 | 3033 | 2050 |
| 5 | 321.2 | 4360 | MF | 1152 | 1347 | 788 | 1459 |
| 5 | 330.7 | 4240 | RR | 1100 | 1358 | 74 | 50 |
| 5 | 342.8 | 4170 | RR | 1107 | 1404 | 0 | 0 |
| 5 | 353.9 | 4250 | RR | 1111 | 1409 | 32 | 22 |
| 5 | 359.3 | 4090 | MF | 1112 | 1412 | 21 | 39 |
| 5 | 005.6 | 4250 | DP-5 | 1116:00 | 1422:46 | 0 | 0 |
| 5 | 011.0 | 4180 | RR | 1125 | 1433 | 45 | 30 |
| 5 | 019.6 | 4300 | RR | 1126 | 1436 | 10 | 7 |
| 5 | 023.0 | 4420 | RR | 1128 | 1440 | 0 | 0 |
| 5 | 031.2 | 4470 | RR | 1131 | 1447 | 0 | 0 |
| 5 | 042.1 | 4120 | RR | 1136 | 1452 | 0 | 0 |
| 6 | 304.8 | 7910 | RR | 1100 | 1531 | 1945 | 1315 |
| 6 | 318.0 | 7930 | RR | 1105 | 1524 | 2478 | 1675 |
| 6 | 322.7 | 8070 | MF | 1110 | 1517 | 232 | 430 |
| 6 | 328.5 | 8060 | RR | 1115 | 1510 | 32 | 22 |
| 6 | 341.5 | 7920 | DP-3 | 1129:16 | 1457:16 | 0 | 0 |
| 6 | 353.0 | 8120 | RR | 1137 | 1446 | 1 | 1 |
| 6 | 357.7 | 8070 | MF | 1142 | 1440 | 4 | 7 |
| 6 | 007.3 | 8220 | DP-4 | 1150:06 | 1434:06 | 0 | 0 |
| 6 | 013.4 | 7920 | RR | 1153 | 1425 | 0 | 0 |
| 6 | 020.9 | 8140 | MF | 1159 | 1416 | 4 | 7 |
| 6 | 023.9 | 8130 | MF | 1204 | 1410 | 0 | 0 |

[f] Bug found in collector orifice; measured dosage of 911 particles adjusted.

[g] Plastic dust cap was left on; measured dosage of 74 particles adjusted.

[h] Plastic dust cap left on; adjustment in measured dosage considered unnecessary.

## Table 4 (continued). TOTAL DOSAGES AT SURFACE

July 25, 1963 Experiment No. 7 Tracer Release from Site B:1040 to 1140 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./$m^3$ |
|---|---|---|---|---|---|---|---|
| 4 | 275.0 | 2290 | RR | 1033 | 1204 | 2 | 1 |
| 4 | 286.2 | 1880 | MF | 1029 | 1208 | 2 | 4 |
| 4 | 293.9 | 2000 | MF | 1026 | 1213 | 62 | 115 |
| 4 | 300.6 | 2020 | RR | 1024 | 1219 | 793 | 537 |
| 4 | 307.2 | 1930 | RR | 1022 | 1222 | 1678 | 1101 |
| 4 | 311.5 | 2050 | RR | 1019 | 1234 | 2807 | 1898 |
| 4 | 315.6 | 2140 | DP-2 | 1014:50 | 1228:50 | 3344 | 1346 |
| 4 | 323.4 | 1940 | MF | 1012 | 1241 | 3122 | 5782 |
| 4 | 341.0 | 2030 | MF | 1008 | 1248 | 984 | 1822 |
| 4 | 350.4 | 2010 | RR | 1006 | 1252 | 16 | 11 |
| 4 | 001.0 | 1930 | RR | 1004 | 1255 | 1 | 1 |
| 5 | 278.3 | 4160 | RR | 1038 | 1242 | 0 | 0 |
| 5 | 288.5 | 4190 | RR | 1033 | 1245 | 1 | 1 |
| 5 | 296.1 | 4270 | MF | 1031 | 1250 | 4 | 7 |
| 5 | 302.7 | 4120 | MF | 1029 | 1259 | 24 | 44 |
| 5 | 305.5 | 4250 | MF | 1027 | 1314 | 86 | 159 |
| 5 | 315.3 | 4050 | DP-5 | 1020:38 | 1322:38 | 698 | 269 |
| 5 | 321.2 | 4360 | MF | 1017 | 1333 | 448 | 830 |
| 5 | 324.7 | 4250 | MF | 1015 | 1341 | 471 | 872 |
| 5 | 337.6 | 4120 | RR | 1009 | 1348 | 159 | 107 |
| 5 | 349.3 | 4310 | RR | 1006 | 1355 | 0 | 0 |
| 5 | 359.3 | 4090 | RR | 1003 | 1402 | 0 | 0 |
| 6 | 272.1 | 7720 | RR | 1105 | 1321 | 0 | 0 |
| 6 | 283.5 | 7150 | RR | 1101 | 1325 | 0 | 0 |
| 6 | 294.3 | 7380 | RR | 1058 | 1330 | 0 | 0 |
| 6 | 301.1 | 7720 | DP-3 | 1053:06 | 1337:06 | 0 | 0 |
| 6 | 304.8 | 7910 | MF | 1045 | 1347 | 34 | 63 |
| 6 | 312.8 | 8020 | RR | 1042 | 1355 | 724 | 489 |
| 6 | 318.0 | 7930 | RR | 1037 | 1400 | 2025 | 1369 |
| 6 | 322.7 | 8070 | DP-4 | 1032:50 | 1408:50 | 3342 | 1263 |
| 6 | 335.4 | 7860 | RR | 1020 | 1423 | 0 | 0 |
| 6 | 346.7 | 8100 | RR | 1012 | 1431 | 1 | 1 |
| 6 | 357.7 | 8070 | RR | 1007 | 1438 | 0 | 0 |

July 26, 1963 Experiment No. 8 Tracer Release from Site B: 1045 to 1145 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./$m^3$ |
|---|---|---|---|---|---|---|---|
| 4 | 307.2 | 1930 | RR | 1003 | 1216 | 3 | 2 |
| 4 | 315.6 | 2140 | RR | 1007 | 1205 | 316 | 214 |
| 4 | 332.1 | 1980 | MF | 1014 | 1220 | 12,641 | 23,411 |
| 4 | 341.0 | 2030 | MF | 1018 | 1226 | 14,915 | 27,623 |
| 4 | 346.7 | 1970 | RR | 1024 | 1230 | 16,498 | 11,523 |
| 4 | 350 7 | 2010 | RR | 1024 | 1233 | 10,224 | 6911 |
| 4 | 355.5 | 1910 | DP-2 | 1027:50 | 1236:50 | 16,090 | 6478 |
| 4 | 001.0 | 1930 | MF | 1034 | 1245 | 186 | 344 |
| 4 | 004.7 | 2020 | MF | 1039 | 1250 | 14 | 26 |
| 4 | 022.6 | 1970 | RR | 1044 | 1258 | 6 | 4 |
| 5 | 315.3 | 4050 | RR | 0957 | 1324 | 0 | 0 |
| 5 | 324.7 | 4250 | RR | 1000 | 1328 | 28 | 19 |
| 5 | 337.6 | 4120 | MF | 1006 | 1338 | 3367 | 6236 |
| 5 | 341.7 | 4170 | MF | 1009 | 1345 | 2514 | 4656 |
| 5 | 349.3 | 4310 | DP-5 | 1011:00 | 1353:45 | 5000 | 1929 |
| 5 | 353.9 | 4250 | MF | 1016 | 1405 | 352 | 652 |
| 5 | 359.3 | 4090 | MF | 1020 | 1411 | 9 | 17 |
| 5 | 005.6 | 4250 | MF | 1022 | 1414 | 4 | 7 |
| 5 | 017.0 | 4280 | RR | 1024 | 1422 | 0 | 0 |
| 5 | 031.2 | 4470 | RR | 1027 | 1425 | 0 | 0 |
| 6 | 304.8 | 7910 | RR | 1052 | 1242 | 1 | 1 |
| 6 | 318.9 | 7640 | RR | 1045 | 1249 | 0 | 0 |
| 6 | 328.5 | 8060 | MF | 1036 | 1255 | 222 | 411 |
| 6 | 341.5 | 7920 | DP-4 | 1023:55 | 1307:42 | 5720 | 2162 |
| 6 | 346.8 | 7980 | RR | 1020 | 1321 | 2153 | 1455 |
| 6 | 354.9 | 8890 | RR | 1016 | 1325 | 267 | 180 |
| 6 | 001.3 | 8620 | DP-3 | 1012:29 | 1332:29 | 0 | 0 |
| 6 | 013.4 | 7920 | RR | 1001 | 1344 | 0 | 0 |
| 6 | 023.9 | 8330 | RR | 0957 | 1349 | 0 | 0 |

# Table 4 (continued). TOTAL DOSAGES AT SURFACE

September 12, 1963 Experiment No. 9 Tracer Release from Site A: 1115 to 1215 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m³ |
|---|---|---|---|---|---|---|---|
| 1 | 91.8 | 780 | RR | 1044 | 1258 | 11 | 7 |
| 1 | 104.0 | 770 | RR | 1047 | 1255 | 7 | 5 |
| 1 | 110.4 | 770 | MF | 1047 | 1246 | 2074 | 3841 |
| 1 | 115.8 | 750 | DP-4 | 1048:05 | 1243:03 | 32,862 | 13,928 |
| 1 | 122.6 | 760 | RR | 1052 | 1237 | 110,431 | 72,937 |
| 1 | 127.2 | 700 | RR | 1054 | 1236 | 136,277 | 90,074 |
| 1 | 134.2 | 730 | RR | 1055 | 1232 | 113,430 | 74,918 |
| 1 | 142.4 | 700 | MF | 1055 | 1225 | 96,986 | 127,753 |
| 1 | 147.8 | 710 | MF | 1056 | 1221 | 74,913 | 142,435 |
| 1 | 156.4 | 650 | RR | 1100 | 1224 | 43,522 | 41,924 |
| 2 | 99.2 | 3000 | RR | 1043 | 1338 | 0 | 0 |
| 2 | 104.0 | 3190 | RR | 1051 | 1334 | 1 | 1 |
| 2 | 112.0 | 3110 | DP-1 | 1045:15 | 1319:35 | 0 | 0 |
| 2 | 116.0 | 3380 | MF | 1059' | 1314 | 6 | 11 |
| 2 | 122.6 | 3080 | MF | 1102 | 1305 | 274 | 507 |
| 2 | 129.1 | 3180 | DP-5 | 1105:20 | 1259:35 | 6675 | 2575 |
| 2 | 134.2 | 3230 | RR | 1106 | 1254 | 8300 | 5482 |
| 2 | 138.7 | 3320 | MF | 1111 | 1245 | 2979 | 5517 |
| 2 | 143.8 | 3250 | RR | 1116 | 1241 | 10,588 | 6993 |
| 2 | 154.1 | 3230 | RR | 1120 | 1237 | 1453 | 960 |
| 3 | 88.2 | 7240 | RR | 1105 | 1314 | 0 | 0 |
| 3 | 94.2 | 7040 | RR | 1112 | 1323 | 0 | 0 |
| 3 | 104.8 | 6810 | RR | 1118 | 1332 | 1 | 1 |
| 3 | 110.8 | 6490 | DP-2 | 1130:00 | 1339:10 | 0 | 0 |
| 3 | 113.5 | 6410 | MF | 1131 | 1355 | 0 | 0 |
| 3 | 123.0 | 6360 | MF | 1124 | 1346 | 18 | 32 |
| 3 | 128.5 | 6070 | DP-3 | 1112:09 | 1334:09 | 596 | 241 |
| 3 | 131.4 | 6470 | MF | 1104 | 1323 | 1035 | 1919 |
| 3 | 145.0 | 6380 | RR | 1058 | 1317 | 2601 | 1850 |
| 3 | 152.2 | 6760 | RR | 1056 | 1313 | 1166 | 770 |
| 3 | 157.7 | 7350 | RR | 1051 | 1305 | 92 | 61 |

September 14, 1963 Experiment No. 10[1] Tracer Release from Site B: 1045 to 1145 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m³ |
|---|---|---|---|---|---|---|---|
| 4 | 273.2 | 1860 | RR | 1033 | 1232 | 14 | 9 |
| 4 | 274.7 | 1850 | RR | 1035 | 1234 | 6 | 4 |
| 5 | 269.8 | 4340 | RR | 1106 | 1246 | 0 | 0 |
| 5 | 271.1 | 4260 | RR | 1104 | 1250 | 1 | 1 |
| 6 | 269.3 | 7210 | RR | 1048 | 1317 | 0 | 0 |
| 6 | 275.9 | 7120 | MF | 1051 | 1323 | 5 | 9 |

[1] Tracer cloud appeared to almost completely miss the sampling arcs. Above samplers analyzed to verify this observation. On the basis of the results of this assessment, no further analysis attempted.

## Table 4 (continued). TOTAL DOSAGES AT SURFACE

September 16, 1963 Experiment No. 11 Tracer Release from Site B : 1100 to 1200 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./$m^3$ |
|---|---|---|---|---|---|---|---|
| 4 | 286.2 | 1880 | RR | 1019 | 1227 | 2 | 1 |
| 4 | 293.9 | 2000 | MF | 1021 | 1230 | 2 | 4 |
| 4 | 300.6 | 2020 | RR | 1023 | 1236 | 14 | 9 |
| 4 | 307.2 | 1930 | MF | 1025 | 1238 | 302 | 559 |
| 4 | 311.5 | 2050 | RR | 1031 | 1251 | 1578 | 1042 |
| 4 | 315.6 | 2140 | DP-4 | 1048:20 | 1245:20 | 16246 | 6139 |
| 4 | 323.4 | 1940 | MF | 1035 | 1258 | 8331 | 15428 |
| 4 | 332.1 | 1980 | MF | 1036 | 1304 | 6924 | 12823 |
| 4 | 341.0 | 2030 | RR | 1039 | 1310 | 10232 | 6758 |
| 4 | 350.4 | 2010 | RR | 1041 | 1315 | 1129 | 746 |
| 5 | 288.5 | 4190 | RR | 1021 | 1250 | 2 | 1 |
| 5 | 296.1 | 4270 | MF | 1026 | 1256 | 0 | 0 |
| 5 | 302.7 | 4120 | DP-5 | 1030:05 | 1305:10 | 0 | 0 |
| 5 | 305.5 | 4250 | MF | 1036 | 1312 | 0 | 0 |
| 5 | 315.3 | 4050 | MF | 1039 | 1320 | 684 | 1267 |
| 5 | 321.2 | 4360 | MF | 1044 | 1324 | 1278 | 2367 |
| 5 | 324.7 | 4250 | DP-1 | 1046:25 | 1329:45 | 4128 | 1626 |
| 5 | 330.7 | 4240 | MF | 1051 | 1337 | 1532 | 2837 |
| 5 | 337.6 | 4120 | RR | 1055 | 1344 | 4233 | 2796 |
| 5 | 349.3 | 4310 | RR | 1100 | 1348 | 4 | 3 |
| 6 | 283.5 | 7150 | RR | 1106 | 1416 | 0 | 0 |
| 6 | 289.6 | 7240 | RR | 1103 | 1411 | 0 | 0 |
| 6 | 294.3 | 7380 | RR | 1101 | 1406 | 3 | 2 |
| 6 | 301.1 | 7720 | MF | 1057 | 1401 | 0 | 0 |
| 6 | 304.8 | 7910 | DP-2 | 1051:10 | 1354:45 | 0 | 0 |
| 6 | 312.8 | 8020 | RR | 1047 | 1347 | 2 | 1 |
| 6 | 318.0 | 7930 | RR | 1047 | 1347 | 235 | 155 |
| 6 | 322.7 | 8070 | DP-3 | 1050:00 | 1352:45 | 1483 | 601 |
| 6 | 328.5 | 8060 | MF | 1100 | 1404 | 782 | 1448 |
| 6 | 335.4 | 7860 | RR | 1110 | 1413 | 1257 | 830 |
| 6 | 341.5 | 7920 | RR | 1114 | 1418 | 72 | 48 |

September 17, 1963 Experiment No. 12 Tracer Release from Site B : 2000 to 2030 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./$m^3$ |
|---|---|---|---|---|---|---|---|
| 4 | 286.2 | 1880 | RR | 1943 | 2109 | 0 | 0 |
| 4 | 293.9 | 2000 | MF | 1945 | 2114 | 2 | 7 |
| 4 | 300.6 | 2020 | RR | 1948 | 2120 | 0 | 0 |
| 4 | 307.2 | 1930 | DP-4[j] | 1932:20 | 2051:20 | 445 | 336 |
| 4 | 311.5 | 2050 | RR | 1954 | 2140 | 826 | 1091 |
| 4 | 315.6 | 2140 | MF | 1951 | 2138 | 5722 | 21193 |
| 4 | 323.4 | 1940 | MF | 1957 | 2128 | 6590 | 24407 |
| 4 | 332.1 | 1980 | MF | 2000 | 2145 | 82 | 304 |
| 4 | 346.7 | 1970 | RR[k] | 2003 | 2151 | 1 | 1 |
| 4 | 355.5 | 1910 | RR | 2005 | 2150 | 2 | 3 |
| 5 | 288.5 | 4190 | RR | 1934 | 2126 | 1 | 1 |
| 5 | 296.1 | 4270 | RR | 1940 | 2130 | 0 | 0 |
| 5 | 305.5 | 4230 | RR | 1943 | 2135 | 1 | 1 |
| 5 | 315.3 | 4050 | MF | 1947 | 2137 | 1686 | 6244 |
| 5 | 321.2 | 4360 | MF | 1948 | 2143 | 8193 | 30344 |
| 5 | 321.2 | 4360 | RR | 1952 | 2145 | 19095 | 25224 |
| 5 | 324.7 | 4250 | MF | 1954 | 2150 | 1998 | 7400 |
| 5 | 330.7 | 4240 | DP-5 | 1957:00 | 2155:00 | 50 | 39 |
| 5 | 337.6 | 4120 | MF | 2004 | 2206 | 2 | 7 |
| 5 | 342.8 | 4170 | RR | 2007 | 2214 | 9 | 12 |
| 5 | 353.9 | 4250 | RR | 2009 | 2218 | 5 | 7 |
| 6 | 283.5 | 7150 | RR[l] | 2028 | 2120 | 8 | 11 |
| 6 | 289.6 | 7240 | RR[l] | 2026 | 2230 | 9 | 12 |
| 6 | 294.3 | 7380 | RR[l] | 2023 | 2235 | 7 | 9 |
| 6 | 301.1 | 7720 | MF[l] | 2020 | 2241 | 0 | 0 |
| 6 | 304.8 | 7910 | DP-2[l] | 2038:05 | 2248:00 | 0 | 0 |
| 6 | 312.8 | 8020 | RR[l] | 2015 | 2300 | 38 | 50 |
| 6 | 318.0 | 7930 | RR | 1945 | 2246 | 191 | 252 |
| 6 | 322.7 | 8070 | MF | 1949 | 2340 | 1410 | 5222 |
| 6 | 328.5 | 8060 | DP-3 | 1956:14 | 2231:59 | 0 | 0 |
| 6 | 335.4 | 7860 | RR | 2001 | 2224 | 4 | 5 |
| 6 | 341.5 | 7920 | RR | 2005 | 2219 | 0 | 0 |

[j] Sampler turned off prematurely by a local resident; no satisfactory method discovered for adjusting listed measured dosage.

[k] Sampler removed and then replaced during the experiment by a person or persons unknown; no satisfactory method discovered for adjusting listed measured dosage.

[l] Samplers probably not in operation until after initial elements of tracer cloud reached them; loss of dosage considered to be insignificant, and thus no revisions in listed measured dosages made.

# Table 4 (continued). TOTAL DOSAGES AT SURFACE

September 19, 1963 Experiment No. 13 Tracer Release from SiteB :2000 to 2100 CST

| Arc | Azimuth (d.c) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | χ Part./m³ |
|---|---|---|---|---|---|---|---|
| 4 | 286.2 | 1880 | RR[a] | 1935 | 2215 | 5340 | 3527 |
| 4 | 297.2 | 2010 | RR[a] | 1941 | 2214 | 3685 | 2434 |
| 4 | 307.2 | 1930 | RR[a] | 1929 | 2210 | 6089 | 4022 |
| 4 | 311.5 | 2050 | RR[a] | 1925 | 2206 | 4436 | 2930 |
| 4 | 315.6 | 2140 | MF[a] | 1922 | 2159 | 144 | 267 |
| 4 | 323.4 | 1940 | MF | 1946 | 2125 | 16970 | 31427 |
| 4 | 341.0 | 2030 | MF[a] | 1954 | 2142 | 878 | 1626 |
| 4 | 346.7 | 1970 | RR[a] | 1959 | 2147 | 1956 | 1292 |
| 4 | 350.4 | 2010 | RR[a] | 2003 | 2150 | 1391 | 919 |
| 4 | 355.5 | 1910 | RR[a] | 2007 | 2154 | 12 | 8 |
| 5 | 282.7 | 4040 | RR | 1933 | 2206 | 45 | 30 |
| 5 | 296.1 | 4270 | RR | 1938 | 2210 | 15 | 10 |
| 5 | 305.5 | 4250 | RR | 1942 | 2213 | 25 | 17 |
| 5 | 315.3 | 4050 | MF | 1945 | 2218 | 14 | 26 |
| 5 | 321.2 | 4360 | DP-5 | 1948:55 | 2226:45 | 15 | 6 |
| 5 | 324.7 | 4250 | MF | 1950 | 2233 | 24 | 44 |
| 5 | 330.7 | 4240 | DP-2 | 1954:30 | 2238:30 | 27 | 11 |
| 5 | 337.6 | 4120 | DP-1 | 1959:55 | 2247:40 | 2352 | 925 |
| 5 | 342.8 | 4170 | RR | 2005 | 2257 | 2723 | 1798 |
| 5 | 349.3 | 4310 | RR | 2008 | 2301 | 5819 | 3843 |
| 5 | 353.9 | 4250 | RR | 2011 | 2306 | 5356 | 3538 |
| 6 | 294.3 | 7380 | RR | 2030 | 2312 | 0 | 0 |
| 6 | 301.1 | 7720 | RR | 2028 | 2307 | 0 | 0 |
| 6 | 304.8 | 7910 | MF[a] | 2024 | 2258 | 14 | 26 |
| 6 | 312.8 | 8020 | RR[a] | 2018 | 2251 | 1 | 1 |
| 6 | 318.0 | 7930 | RR[a] | 2012 | 2243 | 9 | 6 |
| 6 | 322.7 | 8070 | MF[a] | 2100 | 2235 | 2 | 4 |
| 6 | 328.5 | 8060 | DP-3[a] | 2015:00 | 2230:55 | 0 | 0 |
| 6 | 335.4 | 7860 | RR | 2002 | 2241 | 26 | 17 |
| 6 | 341.5 | 7920 | MF | 1952 | 2249 | 73 | 103 |
| 6 | 346.7 | 8100 | RR | 1946 | 2300 | 175 | 116 |
| 6 | 353.0 | 8120 | RR | 1938 | 2307 | 220 | 145 |

[a] Samplers appeared to have been turned off before the entire tracer cloud reached them; no satisfactory method discovered for adjusting listed, measured dosages.

April 1, 1964 Experiment No. 14 Tracer Release from Site B: 1200 to 1300 CST

| Arc | Azimuth (d.c) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | χ Part./m³ |
|---|---|---|---|---|---|---|---|
| 4 | 300.6 | 2020 | RR | 1128 | 1358 | 177 | 117 |
| 4 | 311.5 | 2050 | RR | 1136 | 1323 | 11,606 | 7,703 |
| 4 | 315.6 | 2140 | RR | 1135 | 1315 | 11,645 | 7,729 |
| 4 | 323.4 | 1940 | MF | 1138 | 1323 | 5,362 | 9,930 |
| 4 | 332.1 | 1980 | DP-3 | 1141:25 | 1334:27 | 5,101 | 2062 |
| 4 | 341.0 | 2030 | MF | 1144 | 1338 | 4 | 7 |
| 4 | 346.7 | 1970 | RR | 1147 | 1336 | 16 | 11 |
| 4 | 350.4 | 2010 | RR | 1149 | 1339 | 14 | 9 |
| 4 | 355.5 | 1910 | DP-8 | 1150:55 | 1343:05 | 0 | 0 |
| 4 | 001.0 | 1930 | MF | 1152 | 1343 | 4 | 7 |
| 4 | 008.9 | 1910 | RR | 1155 | 1354 | 0 | 0 |
| 4 | 020.8 | 1920 | RR | 1157 | 1356 | 16 | 11 |
| 5 | 296.1 | 4270 | RR | 1145 | 1315 | 7 | 5 |
| 5 | 302.7 | 4120 | RR | 1150 | 1319 | 55 | 36 |
| 5 | 308.7 | 4150 | RR | 1155 | 1325 | 960 | 637 |
| 5 | 315.3 | 4050 | MF | 1156 | 1333 | 1015 | 1880 |
| 5 | 321.2 | 4360 | DP-4 | 1156:40 | 1332:40 | 952 | 360 |
| 5 | 324.7 | 4250 | MF | 1202 | 1345 | 384 | 711 |
| 5 | 330.7 | 4240 | MF | 1205 | 1350 | 376 | 696 |
| 5 | 337.6 | 4120 | DP-1 | 1142:30 | 1330:02 | 0 | 0 |
| 5 | 341.7 | 4220 | MF | 1150 | 1339 | 6 | 11 |
| 5 | 349.3 | 4310 | MF | 1153 | 1345 | 16 | 30 |
| 5 | 353.9 | 4250 | DP-2 | 1157:26 | 1353:26 | 0 | 0 |
| 5 | 359.3 | 4090 | MF | 1200 | 1400 | 0 | 0 |
| 5 | 005.6 | 425 | RR | 1203 | 1405 | 34 | 22 |
| 5 | 011.4 | 4190 | RR | 1208 | 1408 | 66 | 44 |
| 5 | 017.0 | 4280 | RR | 1210 | 1411 | 21 | 14 |
| 6 | 297.0 | 7490 | RR | 1215 | 1447 | 14 | 9 |
| 6 | 302.3 | 7770 | RR | 1212 | 1441 | 3 | 2 |
| 6 | 308.5 | 8230 | RR | 1209 | 1437 | 12 | 8 |
| 6 | 312.8 | 8020 | MF | 1207 | 1427 | 183 | 339 |
| 6 | 316.0 | 7790 | DP-7 | 1204:20 | 1414:00 | 2414 | 966 |
| 6 | 332.6 | 7980 | DP-10 | 1145:45 | 1339:56 | - | - |
| 6 | 321.2 | 7930 | MF | 1200 | 1403 | 261 | 483 |
| 6 | 325.9 | 8020 | MF | 1156 | 1357 | 156 | 289 |
| 6 | 328.5 | 8060 | MF | 1151 | 1350 | 96 | 178 |
| 6 | 335.4 | 7860 | RR | 1141 | 1231 | 36 | 24 |

# Table 4 (continued). TOTAL DOSAGES AT SURFACE

April 1, 1964 Experiment No. 14 Tracer Release from Site B : 1200 to 1300 CST (CONTINUED)

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./$m^3$ |
|---|---|---|---|---|---|---|---|
| 6 | 339.0 | 7990 | RR | 1128 | 1330 | 38 | 25 |
| 6 | 341.5 | 7920 | MF | 1124 | 1335 | 2 | 4 |
| 6 | 344.4 | 8100 | RR | 1132 | 1344 | 40 | 26 |
| 6 | 346.8 | 7980 | RR | 1135 | 1348 | 15 | 10 |
| 6 | 349.9 | 7880 | DP-5 | 1142:24 | 1356:11 | 0 | 0 |
| 6 | 351.7 | 8430 | MF | 1152 | 1409 | 0 | 0 |
| 6 | 358.4 | 8860 | MF | 1156 | 1419 | 0 | 0 |
| 6 | 003.3 | 8470 | RR | 1159 | 1424 | 0 | 0 |
| 6 | 007.3 | 8220 | RR | 1202 | 1428 | 26 | 17 |
| 6 | 013.4 | 7920 | RR | 1204 | 1439 | 0 | 0 |

[a] Measured dosage of 2892 particles considered to be contamination.

April 6, 1964 Experiment No. 15 Tracer Release from Site B : 2040 to 2140 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./$m^3$ |
|---|---|---|---|---|---|---|---|
| 4 | 323.4 | 1940 | RR | 2013 | 2155 | 40 | 26 |
| 4 | 341.0 | 2030 | MF | 2019 | 2200 | 4 | 7 |
| 4 | 350.4 | 2010 | RR | 2017 | 2206 | 34 | 22 |
| 4 | 355.5 | 1910 | DP-3 | 2023:50 | 2209:49 | 0 | 0 |
| 4 | 01.0 | 1930 | MF | 2029 | 2220 | 2 | 4 |
| 4 | 04.7 | 2020 | MF | 2032 | 2227 | 2 | 4 |
| 4 | 08.9 | 1910 | DP-8[c] | 2034:30 | 2233:24 | 7392 | 2642 |
| 4 | 15.5 | 1870 | MF | 2036 | 2240 | 1952 | 3615 |
| 4 | 27.6 | 1970 | RR | 2040 | 2247 | 776 | 515 |
| 4 | 40.0 | 1930 | RR | 2042 | 2250 | 1154 | 766 |
| 5 | 324.7 | 4250 | RR | 2015 | 2206 | 23 | 15 |
| 5 | 337.6 | 4120 | RR | 2019 | 2211 | 16 | 11 |
| 5 | 349.3 | 4310 | RR | 2024 | 2216 | 11 | 7 |
| 5 | 353.9 | 4250 | RR | 2028 | 2221 | 31 | 20 |
| 5 | 359.3 | 4090 | DP-9 | 2031:00 | 2225:35 | 0 | 0 |
| 5 | 05.6 | 4250 | RR | 2021 | 2205 | 7 | 5 |
| 5 | 11.4 | 4190 | RR | 2024 | 2211 | 2 | 1 |
| 5 | 17.0 | 4280 | RR | 2026 | 2216 | 131 | 87 |
| 5 | 27.6 | 4620 | RR | 2039 | 2235 | 125 | 83 |
| 5 | 18.4 | 4320 | RR | 2028 | 2220 | 148 | 98 |
| 5 | 25.9 | 4410 | DP-1 | 2032:24 | 2238:24 | 223 | 88 |
| 5 | 36.6 | 3970 | RR | 2042 | 2243 | 114 | 76 |
| 6 | 325.9 | 8020 | RR | 2017 | 2225 | 4 | 3 |
| 6 | 335.4 | 7860 | RR | 2021 | 2230 | 14 | 9 |
| 6 | 341.5 | 7920 | RR | 2025 | 2233 | 11 | 7 |
| 6 | 346.8 | 7980 | RR | 2027 | 2237 | 8 | 5 |
| 6 | 351.7 | 8430 | DP-7[b] | 2033:05 | 2244:10 | 0 | 0 |
| 6 | 354.9 | 8890 | RR | 2038 | 2254 | 12 | 8 |
| 6 | 358.4 | 8860 | MF | 2041 | 2257 | 0 | 0 |
| 6 | 01.3 | 8620 | MF | 2044 | 2303 | 2 | 4 |
| 6 | 05.2 | 8340 | DP-2 | 2055:03 | 2221:00 | 0 | 0 |
| 6 | 09.3 | 8100 | MF[a] | 20-9 | 2130 | 1 | 2 |

## Table 4 (continued). TOTAL DOSAGES AT SURFACE

April 6, 1964 Experiment No. 15 Tracer Release from Site B : 2040 to 2140 CST (CONTINUED)

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m³ |
|---|---|---|---|---|---|---|---|
| 6 | 11.4 | 7900 | RR | 2046 | 2240 | 3 | 2 |
| 6 | 18.2 | 8570 | RR | 2021 | 2248 | 5 | 3 |
| 6 | 23.9 | 8160 | RR | 2028 | 2304 | 6 | 4 |
| 6 | 27.1 | 8330 | DP-5 | 2010:30 | 2311:45 | 6 | 0 |
| 6 | 27.1 | 8330 | RR | 2015 | 2259 | 28 | 18 |
| 6 | 33.6 | 8200 | RR | 2023 | 2323 | 8 | 5 |

a Plastic rain cover blew over intake orifice at an unknown time; adjustment to the measured dosage considered unnecessary.

b Plastic rain cover blew over the intake orifice at an unknown time; adjustment to the measured dosage considered unnecessary.

c Sampler turned off prematurely by a local resident; adjustment to the measured dosage considered unnecessary.

April 7, 1964 Experiment No. 16 Tracer Release from Site A : 2048 to 2148 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m³ |
|---|---|---|---|---|---|---|---|
| 1 | 105.7 | 770 | RR | 2040 | 2225 | 21,998 | 14,600 |
| 1 | 118.0 | 770 | RR | 2038 | 2222 | 75,181 | 49,898 |
| 1 | 122.1 | 680 | RR | 2036 | 2220 | 74,495 | 49,442 |
| 1 | 129.5 | 700 | RR | 2035 | 2218 | 73,108 | 48,522 |
| 1 | 137.9 | 670 | DP-8 | 2032:30 | 2213:30 | 126,704 | 45,297 |
| 1 | 143.6 | 670 | MF | 2032 | 2210 | 1134 | 2100 |
| 1 | 147.8 | 630 | RR | 2031 | 2209 | 466 | 309 |
| 1 | 154.5 | 600 | RR | 2030 | 2207 | 101 | 67 |
| 1 | 161.4 | 590 | RR | 2029 | 2206 | 4 | 3 |
| 1 | 171.4 | 580 | RR | 2027 | 2205 | 7 | 5 |
| 1 | 182.5 | 600 | RR | 2026 | 2203 | 54 | 36 |
| 2 | 106.8 | 3190 | RR | 2025 | 2200 | 17 | 11 |
| 2 | 112.0 | 3110 | RR | 2027 | 2205 | 1034 | 686 |
| 2 | 116.0 | 3380 | RR | 2032 | 2210 | 1325 | 879 |
| 2 | 122.6 | 3080 | MF | 2036 | 2217 | 485 | 898 |
| 2 | 134.2 | 3230 | RR | 2044 | 2225 | 4876 | 3236 |
| 2 | 138.7 | 3320 | DP-4 | 2048:15 | 2230:30 | 5010 | 1893 |
| 2 | 143.8 | 3250 | RR | 2043 | 2216 | 193 | 128 |
| 2 | 149.5 | 3280 | RR | 2047 | 2219 | 38 | 25 |
| 2 | 154.1 | 3230 | RR | 2037 | 2222 | 23 | 15 |
| 2 | 160.2 | 3180 | DP-1 | 2031:59 | 2226:00 | 0 | 0 |
| 2 | 167.0 | 3240 | MF | 2028 | 2235 | 4 | 7 |
| 2 | 171.3 | 3240 | RR | 2026 | 2240 | 10 | 7 |
| 2 | 178.0 | 3150 | RR | 2023 | 2245 | 4 | 3 |
| 3 | 116.7 | 6410 | RR | 2038 | 2248 | 91 | 60 |
| 3 | 123.0 | 6360 | RR | 2041 | 2242 | 16 | 11 |
| 3 | 128.5 | 6670 | MF | 2035 | 2236 | 255 | 472 |
| 3 | 131.4 | 6470 | DP-10 | 2030:41 | 2231:20 | 5006 | 1923 |
| 3 | 133.7 | 6410 | RR | 2043 | 2227 | 1390 | 922 |
| 3 | 136.7 | 6250 | MF | 2027 | 2223 | 444 | 822 |
| 3 | 139.2 | 6160 | RR | 2027 | 2219 | 698 | 463 |
| 3 | 142.0 | 6180 | MF | 2025 | 2215 | 50 | 93 |
| 3 | 145.0 | 6380 | DP-5 | 2026:17 | 2216:06 | 0 | 0 |
| 3 | 152.2 | 6780 | MF | 2031 | 2229 | 0 | 0 |
| 3 | 148.4 | 6660 | RR | 2030 | 2224 | 2 | 1 |
| 3 | 156.1 | 6470 | RR | 2036 | 2233 | 0 | 0 |
| 3 | 159.3 | 6960 | DP-2 | 2037:20 | 2238:10 | 0 | 0 |
| 3 | 162.5 | 7210 | MF | 2043 | 2247 | 0 | 0 |
| 3 | 168.4 | 7510 | RR | 2047 | 2254 | 0 | 0 |
| 3 | 175.5 | 7290 | RR | 2015 | 2259 | 0 | 0 |

## Table 4 (continued). TOTAL DOSAGES AT SURFACE

April 8, 1964 Experiment No. 17 Tracer Release from Site A : 2030 to 2130 GCT

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (GCT) | Time Off (GCT) | Dosage Part. | X Part./m³ |
|---|---|---|---|---|---|---|---|
| 1 | 105.7 | 770 | RR | 2021 | 2201 | 6 | 4 |
| 1 | 110.9 | 740 | MF | 2018 | 2158 | 0 | 0 |
| 2 | 101.6 | 1150 | RR | 2021 | 2145 | 19 | 13 |
| 2 | 106.8 | 1190 | RR | 2025 | 2149 | 30 | 20 |
| 2 | 112.0 | 1210 | RR | 2029 | 2155 | 17 | 11 |
| 3 | 110.8 | 6490 | RR | 2037 | 2216 | 0 | 0 |
| 3 | 116.7 | 6410 | RR | 2029 | 2054 | 0 | 0 |
| 3 | 123.0 | 6360 | RR | 2025 | 2036 | 2 | 1 |

[a] Tracer cloud appeared to completely miss the sampling arcs. The above samplers analyzed to verify this observation. On the basis of the results of this assessment, no further analysis attempted.

April 9, 1964 Experiment No. 18 Tracer Release from Site A : 2045 to 2145 GCT

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (GCT) | Time Off (GCT) | Dosage Part. | X Part./m³ |
|---|---|---|---|---|---|---|---|
| 1 | 04.0 | 940 | RR | 2024 | 2242 | 11,382 | 7,554 |
| 1 | 10.8 | 940 | RR | 2023 | 2219 | 16,821 | 11,164 |
| 1 | 19.5 | 970 | RR | 2019 | 2215 | 554,126 | 367,773 |
| 1 | 32.7 | 980 | RR | 2018 | 2213 | 427,219 | 283,545 |
| 1 | 29.6 | 930 | DP-8 | 2014:48 | 2205:51 | 980,245 | 350,438 |
| 1 | 35.4 | 910 | MF | 2012 | 2203 | 39,944 | 73,976 |
| 1 | 41.1 | 980 | RR | 2011 | 2201 | 55,868 | 37,080 |
| 1 | 43.7 | 960 | RR | 2011 | 2159 | 65,452 | 43,440 |
| 1 | 45.1 | 910 | RR | 2010 | 2159 | 61,425 | 40,768 |
| 1 | 51.7 | 820 | RR | 2010 | 2156 | 323,828 | 214,925 |
| 1 | 60.9 | 790 | RR | 2009 | 2155 | 355,298 | 235,811 |
| 1 | 68.9 | 850 | RR | 2008 | 2152 | 8,432 | 5,596 |
| 2 | 00.2 | 3390 | RR | 2043 | 2234 | 241 | 160 |
| 2 | 05.4 | 3360 | RR | 2040 | 2230 | 303 | 201 |
| 2 | 11.9 | 3370 | RR | 2037 | 2227 | 916 | 608 |
| 2 | 18.5 | 3400 | RR | 2035 | 2223 | 33,940 | 22,526 |
| 2 | 23.0 | 3350 | RR | 2031 | 2217 | 53,582 | 35,562 |
| 2 | 31.6 | 3480 | DP-9 | 2025:30 | 2211:20 | 35,395 | 14,565 |
| 2 | 28.0 | 3340 | RR | 2020 | 2241 | 42,873 | 28,455 |
| 2 | 36.9 | 3270 | RR | 2024 | 2210 | 968 | 642 |
| 2 | 42.9 | 3180 | MF | 2031 | 2217 | 10 | 18 |
| 2 | 48.7 | 3470 | DP-1 | 2038:05 | 2226:05 | 648 | 255 |
| 2 | 53.6 | 3200 | RR | 2044 | 2235 | 0 | 0 |
| 2 | 60.2 | 3200 | MF | 2050 | 2239 | 0 | 0 |
| 2 | 65.4 | 3470 | RR | 2052 | 2247 | 1 | 1 |
| 2 | 72.3 | 3230 | RR | 2057 | 2254 | 1 | 1 |
| 3 | 04.3 | 7910 | RR[a] | 2036 | 2232 | 2 | 1 |
| 3 | 08.3 | 7430 | RR[a] | 2041 | 2236 | 1 | 1 |
| 3 | 13.3 | 7220 | RR[a] | 2043 | 2239 | 32 | 21 |
| 3 | 19.6 | 6980 | DP-7[a] | 2049:05 | 2247:15 | 1940 | 776 |
| 3 | 25.4 | 7230 | RR[a] | 2054 | 2303 | 12,316 | 8,174 |
| 3 | 30.1 | 6920 | RR[a] | 2055 | 2301 | 836 | 555 |
| 3 | 32.5 | 7710 | DP-2[a] | 2024:52 | 2142:02 | 291[b] | 117 |
| 3 | 34.8 | 7610 | MF[a] | 2035 | 2300 | 22 | 41 |
| 3 | 37.5 | 7740 | RR[a] | 2032 | 2257 | 9 | 6 |
| 3 | 41.6 | 7610 | MF[a] | 2028 | 2253 | 2 | 4 |

# Table 4 (continued). TOTAL DOSAGES AT SURFACE

April 9, 1964 Experiment No. 18 Tracer Release from Site A : 2045 to 2145 CST (CONTINUED)

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m³ |
|---|---|---|---|---|---|---|---|
| 3 | 45.2 | 7590 | RR[a] | 2025 | 2250 | 5 | 3 |
| 3 | 48.7 | 7690 | DP-5[a] | 2018:23 | 2240:22 | 0 | 0 |
| 3 | 55.1 | 7610 | RR[a] | 2013 | 2236 | 0 | 0 |
| 3 | 61.6 | 7590 | RR[a] | 2008 | 2233 | 1 | 1 |
| 3 | 67.6 | 7390 | RR[a] | 2008 | 2230 | 2 | 1 |

[a] Sampler probably turned off before entire tracer cloud reached them; loss of dosage considered to be insignificant, and thus no revisions made in listed measured dosage.

[b] Sampler turned off during passage of tracer cloud; measured dosage considered to be primarily contamination; by coincidence, adjusted dosage is identical in magnitude to measured dosage.

June 2, 1964 Experiment No. 19 Tracer Release from Site A : 1030 to 1130 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m³ |
|---|---|---|---|---|---|---|---|
| 1 | 105.7 | 770 | MF | 1025 | 1135:30 | 20,014 | 37,066 |
| 1 | 110.9 | 740 | DP-9 | 1021:22 | 1142:54 | 292,025 | 120,168 |
| 1 | 118.0 | 770 | RR | 1019 | 1202 | 117,889 | 79,422 |
| 1 | 122.1 | 680 | RR | 1019 | 1201 | 150,212 | 101,198 |
| 1 | 129.5 | 700 | RR | 1015 | 1156 | 92,523 | 62,333 |
| 1 | 137.9 | 670 | DP-4 | 1015:15 | 1149:53 | 125,156 | 47,296 |
| 1 | 143.6 | 670 | MF | 1010 | 1208 | 9,144 | 16,935 |
| 1 | 147.8 | 630 | RR | 1008 | 1211 | 28,081 | 18,918 |
| 1 | 154.5 | 600 | RR | 1007 | 1212 | 17,776 | 11,976 |
| 1 | 161.4 | 590 | MF | 1006 | 1214 | 2,090 | 3,871 |
| 1 | 182.5 | 600 | RR | 1004 | 1218 | 27 | 18 |
| 2 | 106.8 | 3190 | RR | 1030 | 1236 | 5,094 | 3,432 |
| 2 | 112.0 | 3110 | RR | 1035 | 1239 | 5,420 | 3,651 |
| 2 | 116.0 | 3380 | MF | 1028 | 1229 | 1,336 | 2,474 |
| 2 | 122.6 | 3080 | DP-1 | 1023:40 | 1219:15 | 6,918 | 2,726 |
| 2 | 129.1 | 3180 | MF | 1019 | 1208 | 1,356 | 2,511 |
| 2 | 134.2 | 3230 | RR | 1016 | 1205 | 2,360 | 1,590 |
| 2 | 138.7 | 3320 | DP-10 | 1010:04 | 1157:30 | 2,936[u] | 1,128 |
| 2 | 143.8 | 3250 | RR | 1010 | 1150 | 1,702 | 1,147 |
| 2 | 149.5 | 3280 | RR | 1011 | 1154 | 210 | 141 |
| 2 | 154.1 | 3230 | RR | 1016 | 1201 | 87 | 59 |
| 2 | 160.2 | 3180 | DP-5 | 1020:32 | 1207:55 | 0 | 0 |
| 2 | 167.0 | 3240 | RR | 1025 | 1224 | 1 | 1 |
| 2 | 178.0 | 3150 | RR | 1029 | 1225 | 4 | 3 |
| 3 | 104.8 | 6810 | RR | 1018 | 1215 | 355 | 239 |
| 3 | 110.8 | 6490 | RR | 1022 | 1222 | 319 | 215 |
| 3 | 116.7 | 6410 | DP-7 | 1025:55 | 1233:40 | 1,466 | 586 |
| 3 | 123.0 | 6360 | MF | 1027 | 1237 | 560[v] | 1036 |
| 3 | 128.5 | 6670 | DP-3 | 1030:00 | 1249:20 | 583 | 236 |
| 3 | 133.7 | 6410 | RR | 1036 | 1259 | 202 | 136 |
| 3 | 136.7 | 6250 | DP-2 | 1006:40 | 1214:40 | 536 | 216 |
| 3 | 142.0 | 6180 | MF | 1012 | 1221 | 26 | 48 |
| 3 | 145.0 | 6380 | DP-8 | 1015:40 | 1225:40 | 147[w] | 53 |
| 3 | 152.2 | 6780 | MF | 1025 | 1239 | 2 | 4 |

# Table 4 (continued). TOTAL DOSAGES AT SURFACE

June 2, 1964 Experiment No. 19 Tracer Release from Site A: 1030 to 1130 CST (CONTINUED)

| Arc | Azimuth (d.c) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m$^3$ |
|---|---|---|---|---|---|---|---|
| 3 | 148.4 | 6660 | RR | 1032 | 1235 | 2 | 1 |
| 3 | 159.3 | 6940 | MF | 1032 | - [x] | 0 | 0 |
| 3 | 165.1 | 7630 | RR | 1036 | 1354 | 11 | 7 |
| 3 | 170.5 | 7640 | RR | 1044 | 1359 | 0 | 0 |

[u] Assumed contamination subtracted from measured dosage of 5390 particles.

[v] Assumed contamination subtracted from measured dosage of 560 particles.

[w] Assumed contamination subtracted from measured dosage of 1123 particles.

[x] Power turned off at an unknown time by a person or persons unknown; no adjustment to measured dosage considered necessary.

June 3, 1964 Experiment No. 20 Tracer Release from Site A: 1040 to 1140 CST

| Arc | Azimuth (d.c) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m$^3$ |
|---|---|---|---|---|---|---|---|
| 1 | 19.5 | 970 | RR | 1027 | 1141 | 2 | 1 |
| 1 | 29.6 | 930 | MF | 1023 | 1149 | 6 | 11 |
| 1 | 35.4 | 910 | DP-8 | 1021:00 | 1145:07 | 71 | 25 |
| 1 | 41.1 | 980 | RR | 1020 | 1156 | 128 | 86 |
| 1 | 45.1 | 910 | MF | 1019 | 1157 | 1132 | 2096 |
| 1 | 51.7 | 820 | DP-4 | 1016:12 | 1203:08 | 97,607 | 36,886 |
| 1 | 60.9 | 790 | MF | 1014 | 2109 | 27,089 | 50,169 |
| 1 | 68.9 | 850 | DP-9 | 1011:00 | 1214:25 | 58,803 | 24,197 |
| 1 | 75.4 | 870 | RR | 1008 | 1219 | 50,921 | 34,305 |
| 1 | 87.4 | 800 | RR | 1007 | 1220 | 41,491 | 27,952 |
| 2 | 11.9 | 3370 | RR | 1022 | 1222 | 3 | 2 |
| 2 | 18.5 | 3400 | RR | 1020 | 1218 | 3 | 2 |
| 2 | 23.0 | 3350 | RR | 1019 | 1217 | 9 | 6 |
| 2 | 28.0 | 3340 | RR | 1018 | 1213 | 2 | 1 |
| 2 | 31.6 | 3480 | MF | 1016 | 1208 | 0 | 0 |
| 2 | 36.9 | 3270 | DP-10 | 1007:54 | 1159:52 | [y] | - |
| 2 | 42.9 | 3180 | MF | 1012 | 1155 | [z] | 12 |
| 2 | 48.7 | 3470 | DP-5 | 1011:04 | 1157:42 | 97 | 37 |
| 2 | 53.6 | 3200 | RR | 1018 | 1206 | 50 | 34 |
| 2 | 60.2 | 3200 | MF | 1021 | 1211 | 38 | 70 |
| 2 | 65.4 | 3470 | DP-1 | 1026:30 | 1225:30 | 272 | 107 |
| 2 | 72.3 | 3230 | RR | 1035 | 1236 | 287 | 193 |
| 2 | 77.3 | 3270 | RR | 1040 | 1243 | 848 | 571 |
| 3 | 13.3 | 7220 | RR | 1015 | 1210 | 15 | 10 |
| 3 | 19.6 | 6980 | RR | 1020 | 1217 | 10 | 7 |
| 3 | 25.4 | 7230 | RR | 1023 | 1222 | 0 | 0 |
| 3 | 32.5 | 7710 | DP-3 | 1029:10 | 1229:00 | 0 | 0 |
| 3 | 37.5 | 7740 | MF | 1036 | 1238 | 0 | 0 |
| 3 | 41.6 | 7610 | MF | 1037 | 1242 | 0 | 0 |
| 3 | 52.3 | 7490 | RR | 1022 | 1210 | 65 | 44 |
| 3 | 52.3 | 7490 | MF | 1024 | 1213 | 38 | 70 |
| 3 | 48.7 | 7670 | DP-7 | 1043:25 | 1249:50 | 0 | 0 |
| 3 | 57.9 | 7510 | MF | 1028 | 1217 | 132 | 244 |
| 3 | 64.3 | 7410 | DP-2 | 1031:15 | 1222:45 | 1305 | 525 |
| 3 | 69.9 | 7410 | RR | 1034 | 1231 | 900 | 606 |
| 3 | 75.5 | 7420 | RR | 1037 | 1235 | 1810 | 1219 |
| 3 | 82.1 | 7410 | RR | 1041 | 1230 | 1585 | 1068 |

[y] Measured dosage of 804 particles considered to be contamination.

[z] Assumed contamination subtracted from measured dosage of 44 particles.

# Table 4 (continued). TOTAL DOSAGES AT SURFACE

June 4, 1964 Experiment No. 21 Tracer Release from Site B : 1030 to 1130 CST

| Arc | Azimuth (d.c) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | K Part./m³ |
|---|---|---|---|---|---|---|---|
| 4 | 111.5 | 3050 | MR | 1000 | 1138 | 35 | 24 |
| 4 | 121.4 | 3040 | MR | 1006 | 1140 | 1,938 | 3,406 |
| 4 | 141.0 | 3030 | MR | 1008 | 1147 | 6,397 | 11,247 |
| 4 | 155.5 | 3020 | MR | 1010 | 1156 | 1,100 | 2,119 |
| 4 | 159.9 | 3020 | MR | 1011 | 1152 | 1,853 | 3,269 |
| 4 | 04.7 | 3020 | DP-4 | 1017:05 | 1201:05 | 302[a1] | 124 |
| 4 | 15.5 | 3070 | MR | 1015 | 1207 | 0 | 0 |
| 4 | 27.6 | 3070 | MR | 1020 | 1210 | 0 | 0 |
| 4 | 40.0 | 3030 | MR | 1024 | 1214 | 17 | 11 |
| 4 | 50.6 | 3050 | MR | 1026 | 1216 | 23 | 15 |
| 6 | 118.9 | 7540 | MR | 1040 | 1215 | 2,400 | 1,418 |
| 6 | 122.7 | 8070 | MR | 1041 | 1219 | 7,519 | 5,079 |
| 6 | 128.5 | 8040 | MR | 1038 | 1223 | 8,106 | 5,441 |
| 6 | 135.4 | 7960 | MR | 1035 | 1227 | 6,531 | 4,400 |
| 6 | 144.5 | 7900 | DP-10 | 1008:10 | 1236:10 | 1,832 | 754 |
| 6 | 149.5 | 7680 | MR | 1021 | .[b1] | 25[c1] | 44 |
| 6 | 150.9 | 8890 | MR | 1018 | 1254 | .[d1] | - |
| 6 | 154.9 | 8890 | MR | 1016 | 1250 | 42 | 78 |
| 6 | 01.1 | 8400 | DP-9 | 1019:25 | 1237:54 | .[d1] | - |
| 6 | 05.2 | 8340 | MR | 1025 | 1223 | 37 | 59 |
| 6 | 09.3 | 9100 | MR | 1028 | 1230 | 70 | 130 |
| 6 | 13.4 | 7900 | MR | 1030 | 1234 | 1,779 | 1,165 |
| 6 | 18.2 | 8,779 | DP-1 | 1035:40 | 1242:31 | .[d1] | - |
| 6 | 21.9 | 8,140 | MR | 1049 | 1256 | 1,322 | 891 |
| 6 | 31.3 | 8450 | MR | 1035 | 1301 | 391 | 263 |
| 7 | 107.1 | 16,370 | MR | 1105 | 1340 | 3,171 | 2,136 |
| 7 | 111.7 | 15,905 | MR | 1059 | 1332 | 687 | 463 |
| 7 | 117.1 | 17,680 | MR | 1050 | 1327 | 381 | 257 |
| 7 | 120.0 | 17,680 | MR | 1044 | 1320 | 234 | 158 |
| 7 | 122.0 | 18,.10 | DP-7 | 1040:10 | 1313:46 | 1,082 | 417 |
| 7 | 125.4 | 17,730 | MR | 1035 | 1310 | 291 | 196 |
| 7 | 128.0 | 17,570 | MR | 1031 | 1305 | 341 | 230 |
| 7 | 131.4 | 17,610 | MR | 1029 | 1300 | 274 | 184 |
| 7 | 134.7 | 17,300 | MR | 1105 | 1308 | 467 | 315 |
| 7 | 137.6 | 17,280 | MR | 1103 | 1306 | 505 | 340 |

June 4, 1964 Experiment No. 21 Tracer Release from Site B : 1030 to 1130 CST
(CONTINUED)

| Arc | Azimuth (d.c) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | K Part./m³ |
|---|---|---|---|---|---|---|---|
| 7 | 359.8 | 17,370 | DP-3 | 1100:00 | 1319:35 | -[d1] | - |
| 7 | 03.3 | 17,340 | MR | 1058 | 1316 | 411 | 277 |
| 7 | 06.3 | 17,290 | MR | 1056 | 1314 | 410 | 276 |
| 7 | 09.4 | 17,330 | MR | 1054 | 1312 | 862 | 581 |
| 7 | 12.6 | 17,390 | DP-2 | 1051:00 | 1303:05 | -[d1] | - |

[a1] Assumed contamination subtracted from measured dosage of 2300 particles.

[b1] Power turned off at an unknown time by a person or persons unknown; adjustment in measured dosage considered unnecessary.

[c1] Measured dosage of 1714 particles considered to be contamination.

[d1] No data obtained; collector tapes damaged.

# Table 4 (continued). TOTAL DOSAGES AT SURFACE

June 6, 1964 Experiment No. 22 Tracer Release from Site A : 1130 to 1230 CST

| Arc | Azimuth (d.c) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m$^3$ |
|---|---|---|---|---|---|---|---|
| 1 | 10.8 | 940 | RR | 1130 | 1313 | 247,187 | 167,098 |
| 1 | 14.4 | 950 | RR | 1130 | 1315 | 106,813 | 72,206 |
| 1 | 22.7 | 980 | RR | 1126 | 1307 | 50,836 | 34,365 |
| 1 | 29.6 | 930 | DP-4 | 1121:43 | 1257:20 | 83,350 | 31,498 |
| 1 | 35.4 | 910 | MF | 1117 | 1303 | 5,795 | 10,732 |
| 1 | 41.1 | 980 | RR | 1116 | 1255 | 447 | 302 |
| 1 | 45.1 | 910 | MF | 1115 | 1251 | 8 | 15 |
| 1 | 51.7 | 820 | DP-9 | 1113:27 | 1245 :26 | 0 | 0 |
| 1 | 60.9 | 790 | MF | 1111 | 1242 | 10 | 18 |
| 1 | 68.9 | 850 | RR | 1111 | 1239 | 18 | 12 |
| 1 | 80.6 | 780 | RR | 1109 | 1236 | 4 | 3 |
| 2 | 0.2 | 3390 | RR | 1122 | 1323 | 3,664 | 2,475 |
| 2 | 5.4 | 3360 | MF | 1120 | 1318 | 1,184 | 2,193 |
| 2 | 11.9 | 3370 | RR | 1118 | 1316 | 6,370 | 4,306 |
| 2 | 18.5 | 3400 | RR | 1116 | 1313 | 3,392 | 2,293 |
| 2 | 23.0 | 3350 | RR | 1111 | 1309 | 305 | 206 |
| 2 | 31.6 | 3480 | DP-10 | 1107:05 | 1301:05 | 0 | 0 |
| 2 | 28.0 | 3340 | RR | 1114 | 1307 | 17 | 11 |
| 2 | 36.9 | 3270 | RR | 1110 | 1257 | 6 | 4 |
| 2 | 42.9 | 3180 | MF | 1114 | 1301 | 2 | 4 |
| 2 | 48.7 | 3470 | DP-1 | 1116:30 | 1312:32 | 0 | 0 |
| 2 | 53.6 | 3200 | RR | 1126 | 1320 | 1 | 1 |
| 2 | 60.2 | 3200 | MF | 1128 | 1323 | 2 | 4 |
| 2 | 65.4 | 3470 | RR | 1130 | 1330 | 4 | 3 |
| 2 | 72.3 | 3730 | RR | 1135 | 1338 | 0 | 0 |
| 3 | 04.3 | 7910 | RR | 1123 | 1321 | 2,252 | 1,522 |
| 3 | 08.3 | 7430 | DP-8 | 1125:30 | 1325:45 | 6,695 | 2,395 |
| 3 | 13.3 | 7220 | RR | 1130 | 1333 | 4,498 | 3,041 |
| 3 | 19.6 | 6980 | RR | 1132:50 | 1330:00 | 2,472 | 1,080 |
| 3 | 25.4 | 7230 | MF | 1125 | 1348 | 172 | 318 |
| 3 | 30.1 | 6930 | DP-3 | 1137:10 | 1353:45 | 632 | 254 |
| 3 | 34.8 | 7140 | MF | 1139 | 1354 | 76 | 141 |
| 3 | 39.5 | 7350 | RR | 1141 | 1359 | 128 | 87 |
| 3 | 41.6 | 7540 | DP-7 | 1137:31 | 1356:20 | 93 | 37 |
| 3 | 45.2 | 7530 | RR | 1139 | 1341 | 3 | 2 |
| 3 | 55.1 | 7540 | RR | 1134 | 1330 | 1 | 1 |
| 3 | 61.6 | 7530 | RR | 1132 | 1327 | 1 | 1 |
| 3 | 67.4 | 7390 | RR | 1128 | 1324 | 1 | 1 |
| 3 | 77.5 | 7610 | RR | 1128 | 1320 | 0 | 0 |

June 7, 1964 Experiment No. 23 Tracer Release from Site A : 1130 to 1230 CST

| Arc | Azimuth (d.c) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m$^3$ |
|---|---|---|---|---|---|---|---|
| 1 | 4.0 | 940 | RR | 1120 | 1307 | 9 | 6 |
| 1 | 14.4 | 950 | RR | 1116 | 1311 | 20 | 13 |
| 1 | 22.7 | 980 | RR | 1110 | 1301 | 48 | 32 |
| 1 | 29.6 | 930 | DP-4 | 1107:13 | 1256:13 | 5,202 | 1,966 |
| 1 | 35.4 | 910 | MF | 1105 | 1252 | 2,508 | 4,645 |
| 1 | 41.1 | 980 | RR | 1104 | 1250 | 28,749 | 19,144 |
| 1 | 45.1 | 910 | MF | 1103 | 1247 | 33,592 | 62,212 |
| 1 | 51.7 | 820 | RR | 1101 | 1245 | 161,334 | 107,432 |
| 1 | 60.9 | 790 | MF | 1057 | 1238 | 71,341 | 132,124 |
| 1 | 60.9 | 790 | DP-9 | 1059:10 | 1238:10 | 452,870 | 186,356 |
| 1 | 68.9 | 850 | RR | 1057 | 1235 | 177,194 | 117,993 |
| 2 | 00.2 | 3390 | MF | 1112 | 1320 | 14 | 26 |
| 2 | 05.4 | 3360 | MF | 1107 | 1315 | 4 | 7 |
| 2 | 11.9 | 3370 | RR | 1105 | 1313 | 1 | 1 |
| 2 | 18.5 | 3400 | RR | 1102 | 1310 | 0 | 0 |
| 2 | 23.0 | 3350 | RR | 1101 | 1304 | 1 | 1 |
| 2 | 28.0 | 3340 | RR | 1059 | 1307 | 7 | 5 |
| 2 | 31.6 | 3480 | DP-10 | 1052:15 | 1258:05 | 0 | 0 |
| 2 | 36.9 | 3270 | RR | 1054 | 1259 | 90 | 60 |
| 2 | 42.9 | 3180 | MF | 1058 | 1302 | 591 | 1,095 |
| 2 | 48.7 | 3470 | DP-5 | 1059:50 | 1309:30 | 4,929 | 1,902 |
| 2 | 53.6 | 3200 | RR | 1105 | 1315 | 5,362 | 3,570 |
| 2 | 60.2 | 3200 | MF | 1109 | 1318 | 4,025 | 7,454 |
| 2 | 65.4 | 3470 | RR | 1111 | 1325 | 4,134 | 2,753 |
| 3 | 04.3 | 7910 | RR | 1129 | 1310 | 1 | 1 |
| 3 | 08.3 | 7430 | DP-8 | 1131:10 | 1315:00 | 0 | 0 |
| 3 | 13.3 | 7220 | RR | 1134 | 1324 | 1 | 1 |
| 3 | 19.6 | 6980 | RR | 1127 | 1328 | 16 | 11 |
| 3 | 25.4 | 7230 | RR | 1140 | - e1 | 1 | 1 |
| 3 | 32.5 | 7710 | DP-3 | 1144:15 | 1341:10 | 0 | 0 |
| 3 | 37.5 | 7740 | RR | 1130 | 1329 | 2 | 1 |
| 3 | 41.6 | 7610 | DP-2 | 1125:10 | 1324:00 | 0 | 0 |
| 3 | 48.7 | 7670 | RR | 1122 | 1318 | 352 | 234 |
| 3 | 55.1 | 7610 | RR | 1120 | 1316 | 843 | 561 |
| 3 | 61.6 | 7590 | RR | 1115 | 1314 | 999 | 665 |
| 3 | 67.6 | 7390 | RR | 1114 | 1310 | 51 | 34 |

e1 Sampler ceased to operate at an unknown time; no adjustment to measured dosage considered necessary.

# Table 4 (continued). TOTAL DOSAGES AT SURFACE

June 9, 1964 Experiment No. 24 Tracer Release from Site A : 1030 to 1130 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | N Part./m³ |
|---|---|---|---|---|---|---|---|
| 1 | 4.0 | 940 | RR | 1029 | 1216 | 55,481 | 36,645 |
| 1 | 10.8 | 940 | RR | 1028 | 1214 | 101,978 | 67,356 |
| 1 | 19.5 | 970 | RR | 1022 | 1207 | 261,221 | 172,536 |
| 1 | 28.7 | 980 | RR | 1020 | 1204 | 221,170 | 146,083 |
| 1 | 29.6 | 930 | DP-9 | 1015:36 | 1156:36 | 419,042 | 170,436 |
| 1 | 35.4 | 910 | DP-4 | 1014:35 | 1150:35 | 238,731 | 90,216 |
| 1 | 41.1 | 980 | RR | 1017 | 1147 | 15,086 | 9,964 |
| 1 | 45.1 | 910 | MF | 1010 | 1143 | 1,732 | 3,208 |
| 1 | 54.7 | 820 | MF | 1009 | 1138 | 2,224 | 4,119 |
| 1 | 60.9 | 790 | RR | 1006 | 1135 | 928 | 613 |
| 2 | 00.2 | 1390 | RR | 1021 | 1219 | 0 | 0 |
| 2 | 05.4 | 1360 | MF | 1020 | 1214 | 12 | 22 |
| 2 | 11.9 | 1370 | RR | 1019 | 1212 | 398 | 263 |
| 2 | 18.5 | 1400 | RR | 1017 | 1208 | 6,769 | 4471 |
| 2 | 23.0 | 1350 | RR | 1016 | 1204 | 11,906 | 7864 |
| 2 | 31.6 | 1480 | DP-10 | 1008:32 | 1156:22 | 23,096 | 8873 |
| 2 | 38.0 | 1340 | RR | 1014 | 1203 | 14,706 | 9713 |
| 2 | 36.9 | 1270 | DP-4 | 1027:33 | 1214:05 | 4,472 | 1762 |
| 2 | 42.9 | 1180 | MF | 1022 | 1208 | 15 | 26 |
| 2 | 42.9 | 1180 | RR | 1021 | 1206 | 97 | 64 |
| 2 | 48.7 | 1470 | DP-5 | 1015:30 | 1158:46 | 0 | 0 |
| 2 | 53.4 | 1500 | RR | 1012 | 1154 | 24 | 16 |
| 2 | 60.2 | 1500 | RR | 1008 | 1150 | 9 | 6 |
| 3 | 04.3 | 7910 | RR | 1002 | 1237 | 10 | 7 |
| 3 | 08.3 | 7930 | RR | 1005 | 1232 | 1 | 1 |
| 3 | 19.0 | 6980 | DP-8 | 1012:25 | 1216:25 | 179[1] | 64 |
| 3 | 25.4 | 7230 | MF | 1016 | 1209 | 413 | 765 |
| 3 | 32.5 | 7710 | DP-3 | 1022:00 | 1200:00 | 1,349 | 545 |
| 3 | 37.5 | 7740 | MF | 1009 | 1222 | 34 | 63 |
| 3 | 37.5 | 7740 | RR | 1007 | 1226 | 54 | 36 |
| 3 | 41.6 | 7610 | DP-2 | 1012:10 | 1217:35 | 0 | 0 |
| 3 | 48.7 | 7670 | DP-7 | 1016:20 | 1210:40 | 0 | 0 |
| 3 | 55.1 | 7610 | RR | 1021 | 1205 | 3 | 2 |
| 3 | 61.6 | 7590 | RR | 1024 | 1200 | 2 | 1 |

[1] Assumed contamination subtracted from the measured dosage of 387 particles.

June 10, 1964 Experiment No. 25 Tracer Release from Site A : 1033 to 1133 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | N Part./m³ |
|---|---|---|---|---|---|---|---|
| 1 | 110.9 | 740 | RR | 1027 | 1313 | 88,468 | 58,433 |
| 1 | 122.1 | 680 | RR | 1026 | 1311 | 93,955 | 62,057 |
| 1 | 129.5 | 700 | RR | 1024 | 1308 | 52,635 | 34,765 |
| 1 | 137.9 | 670 | MF | 1022 | 1306 | 5,990 | 11,093 |
| 1 | 143.6 | 670 | MF | 1022 | 1303 | 1,263 | 2,339 |
| 1 | 147.8 | 630 | RR | 1021 | 1301 | 8,589 | 5,673 |
| 1 | 154.5 | 600 | DP-9 | 1018:44 | 1155:59 | 9,759[1] | 4,016 |
| 1 | 161.4 | 590 | RR | 1019 | 1156 | 3,188 | 2,106 |
| 1 | 171.4 | 580 | RR | 1016 | 1151 | 252 | 166 |
| 1 | 182.5 | 500 | RR | 1016 | 1150 | 81 | 54 |
| 1 | 191.1 | 650 | MF | 1014 | 1145 | 3 | 6 |
| 2 | 116.0 | 3380 | RR | 1020 | 1340 | 7,487 | 4,945 |
| 2 | 122.6 | 3080 | RR | 1022 | 1335 | 7,214 | 4,765 |
| 2 | 129.1 | 3180 | MF | 1018 | 1227 | 997 | 1846 |
| 2 | 134.2 | 3230 | RR | 1016 | 1223 | 5,443 | 3,595 |
| 2 | 138.7 | 3320 | DP-10 | 1012:11 | 1218:07 | 8,464 | 3,252 |
| 2 | 143.8 | 3250 | RR | 1006 | 1311 | 2,858 | 1,888 |
| 2 | 149.5 | 3280 | RR | 1004 | 1305 | 2,037 | 1,345 |
| 2 | 154.1 | 3230 | RR | 1028 | 1201 | 1,223 | 808 |
| 2 | 160.2 | 3180 | DP-1 | 1003:10 | 1300:45 | 0 | 0 |
| 2 | 167.0 | 3240 | MF | 1008 | 1209 | 6 | 11 |
| 2 | 171.3 | 3240 | MF | 1008 | 1312 | 20 | 37 |
| 2 | 178.0 | 3150 | RR | 1012 | 1319 | 3 | 2 |
| 2 | 181.8 | 3370 | RR | 1015 | 1322 | 3 | 2 |
| 3 | 113.5 | 6410 | RR | 1014 | 1330 | 4,718 | 3,116 |
| 3 | 119.9 | 6380 | RR | 1018 | 1337 | 4,449 | 2,939 |
| 3 | 125.4 | 6370 | RR | 1022 | 1344 | 4,643 | 3,067 |
| 3 | 131.4 | 6470 | RR | 1025 | 1349 | 3,414 | 2,255 |
| 3 | 136.7 | 6250 | DP-2 | 1027:35 | 1256:03 | 2,931 | 1,180 |
| 3 | 142.0 | 6180 | MF | 1024 | 1404 | 417 | 772 |
| 3 | 148.4 | 6660 | RR | 1021 | 1400 | 388 | 256 |
| 3 | 156.1 | 6740 | RR | 1017 | 1356 | 42 | 28 |
| 3 | 162.5 | 7210 | DP-8 | 1006:15 | 1345:15 | 0 | 0 |
| 3 | 168.4 | 7510 | RR | 1001 | 1341 | 7 | 8 |
| 3 | 175.5 | 7290 | RR | 0954 | 1336 | 8 | 5 |
| 3 | 184.8 | 7170 | RR | 0953 | 1330 | 3 | 2 |

[1] Assumed contamination subtracted from the measured dosage of 11,411 particles.

# Table 4 (continued). TOTAL DOSAGES AT SURFACE

June 11, 1964 Experiment No. 26 Tracer Release from SiteB :1035 to1135 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m$^3$ |
|---|---|---|---|---|---|---|---|
| 4 | 273.2 | 1860 | RR | 1004 | 1152 | 16,916 | 11,227 |
| 4 | 278.7 | 1890 | RR | 1006 | 1154 | 13,850 | 9,192 |
| 4 | 286.2 | 1880 | MF | 1008 | 1200 | 3,318 | 6,149 |
| 4 | 293.9 | 2000 | DF-9 | 1011:48 | 1204:44 | 5,598 | 2,304 |
| 4 | 300.6 | 2020 | RR | 1014 | 1212 | 2,008 | 1,333 |
| 4 | 307.2 | 1930 | MF | 1016 | 1215 | 124 | 230 |
| 4 | 311.9 | 2050 | RR | 1014 | 1226 | 596 | 396 |
| 4 | 315.6 | 2140 | MF | 1031 | 1241 | 3,234 | 5,989 |
| 4 | 323.4 | 1940 | DF-4 | 1026:46 | 1232:45 | 19,899 | 7,505 |
| 4 | 332.1 | 1900 | RR | 1030 | 1238 | 9,093 | 6,035 |
| 4 | 341.0 | 2030 | RR | 1032 | 1242 | 1,868 | 1,240 |
| 6 | 269.3 | T210 | RR | 1002 | 1210 | 602 | 413 |
| 6 | 275.9 | T220 | RR | 1004 | 1214 | 3,684 | 2,405 |
| 6 | 280.6 | T140 | RR | 1006 | 1216 | 737 | 489 |
| 6 | 286.3 | T200 | DF-3 | 1009:15 | 1222:05 | 1,066 | 431 |
| 6 | 291.9 | T330 | MF | 1014 | 1231 | 636 | 1,178 |
| 6 | 297.0 | T490 | DF-8 | 1016:06 | 1239:20 | 1,777 | 635 |
| 6 | 302.3 | T770 | RR | 1019 | 1248 | 831 | 552 |
| 6 | 308.5 | 8230 | RR | 1008 | 1210 | 857 | 569 |
| 6 | 316.0 | T790 | DF-2 | 1013:40 | 1217:25 | 2,346 | 944 |
| 6 | 321.2 | T930 | MF | 1018 | 1229 | 608 | 1,126 |
| 6 | 322.7 | 8070 | RR | 1021 | 1236 | 892 | 592 |
| 6 | 332.6 | T980 | RR | 1025 | 1243 | 4,956 | 3,289 |
| 6 | 339.0 | T990 | RR | 1030 | 1246 | 4,227 | 2,805 |
| 7 | 269.6 | 17,420 | RR | 1036 | 1325 | 12 | 8 |
| 7 | 276.2 | 17,520 | RR | 1031 | 1319 | 17 | 11 |
| 7 | 282.0 | 17,770 | RR | 1027 | 1315 | 29 | 19 |
| 7 | 288.1 | 18,370 | RR | 1023 | 1311 | 51 | 34 |
| 7 | 291.0 | 18,580 | RR | 1021 | 1308 | 87 | 58 |
| 7 | 293.7 | 19,910 | DF-10 | 1016:03 | 1300:01 | 266 | 102 |
| 7 | 296.6 | 16,700 | RR | 1012 | 1254 | 358 | 238 |
| 7 | 300.3 | 17,290 | RR | 1010 | 1249 | 382 | 254 |
| 7 | 302.7 | 16,240 | RR | 1006 | 1250 | 581 | 386 |
| 7 | 306.2 | 16,320 | RR | 1010 | 1254 | 77 | 502 |
| 7 | 309.2 | 17,130 | DF-1 | 1012:00 | 1257:51 | 1,689 | 665 |
| 7 | 313.0 | 15,240 | RR | 1017 | 1305 | 791 | 525 |
| 7 | 316.5 | 15,120 | RR | 1021 | 1308 | 743 | 493 |
| 7 | 323.0 | 16,820 | RR | 1027 | 1316 | 969 | 643 |
| 7 | 330.1 | 15,930 | RR | 1035 | 1324 | 1,000 | 664 |

October 10, 1964 Experiment No. 27[h1] Tracer Release from SiteB :1130 to 1230 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m$^3$ |
|---|---|---|---|---|---|---|---|
| 4 | 273.2 | 1860 | RR | 1117 | 1258 | 29 | 19 |
| 4 | 278.7 | 1890 | RR | 1116 | 1300 | 19 | 13 |
| 4 | 293.9 | 2000 | MF | 1112 | 1312 | | |
| 5 | 269.8 | 4380 | RR | 1044 | 1310 | 12 | 8 |
| 5 | 280.0 | 4260 | RR | 1051 | 1320 | 2 | 1 |
| 5 | 283.8 | 4290 | MF | 1053 | 1322 | 1 | 2 |
| 7 | 269.6 | 17420 | RR | 1140 | 1430 | 0 | 0 |
| 7 | 276.2 | 17520 | RR | 1143 | 1434 | 0 | 0 |
| 7 | 282.0 | 17770 | RR | 1146 | 1437 | 0 | 0 |

[h1] Tracer cloud appeared to completely miss the sampling area. The above samplers analyzed to verify this observation. On the basis of the results of this assessment, no further analysis made.

## Table 4 (continued). TOTAL DOSAGES AT SURFACE

October 11, 1964 Experiment No. 28 Tracer Release from SiteB :1105 to1205 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | x Part./m$^3$ |
|---|---|---|---|---|---|---|---|
| 4 | 307.2 | 1930 | RR | 1023 | 1307 | 2374 | 1576 |
| 4 | 311.5 | 2050 | RR | 1039 | 1305 | 2921 | 1939 |
| 4 | 315.6 | 2140 | RR | 1037 | 1301 | 5371 | 3565 |
| 4 | 323.4 | 1940 | MF | 1036 | 1257 | 1640 | 3037 |
| 4 | 332.1 | 1980 | DP-9 | 1042:00 | 1231:34 | 7016 | 2887 |
| 4 | 341.0 | 2030 | RR[i1] | 1046 | 1238 | 666 | 442 |
| 4 | 346.7 | 1970 | RR | 1054 | 1240 | 146 | 97 |
| 4 | 350.4 | 2010 | RR | 1048 | 1243 | 5 | 3 |
| 4 | 355.5 | 1910 | MF | 1050 | 1245 | 0 | 0 |
| 4 | 000.1 | 1930 | RR | 1052 | 1250 | 5 | 3 |
| 5 | 308.7 | 4150 | RR | 1031 | 1233 | 440 | 292 |
| 5 | 315.3 | 4050 | RR | 1033 | 1235 | 1376 | 913 |
| 5 | 321.2 | 4360 | RR | 1034 | 1239 | 2219 | 1473 |
| 5 | 324.7 | 4250 | RR | 1036 | 1240 | 2566 | 1703 |
| 5 | 330.7 | 4240 | MF | 1038 | 1243 | 552 | 1022 |
| 5 | 337.6 | 4120 | DP-5 | 1043:14 | 1247:14 | 79 | 30 |
| 5 | 341.7 | 4220 | RR | 1048 | 1259 | 0 | 0 |
| 5 | 349.3 | 4310 | RR | 1050 | 1302 | 0 | 0 |
| 5 | 353.9 | 4250 | DP-4 | 1053:45 | 1305:40 | 0 | 0 |
| 5 | 359.3 | 4090 | RR | 1102 | 1312 | 1 | 1 |
| 5 | 005.6 | 4250 | RR | 1102 | 1315 | 4 | 3 |
| 7 | 313.0 | 15240 | RR | 1051 | 1315 | 1537 | 1020 |
| 7 | 316.5 | 15120 | RR | 1055 | 1319 | 2134 | 1416 |
| 7 | 320.4 | 16320 | RR | 1058 | 1322 | 1916 | 1272 |
| 7 | 324.4 | 17150 | DP-7 | 1103:28 | 1329:20 | 2,742 | 1097 |
| 7 | 327.1 | 16370 | RR[i1] | 1109 | 1337 | 685 | 455 |
| 7 | 330.1 | 15930 | RR | 1111 | 1341 | 238 | 158 |
| 7 | 332.2 | 15920 | RR | 1114 | 1344 | 20 | 13 |
| 7 | 335.6 | 16280 | RR | 1117 | 1347 | 1 | 1 |
| 7 | 337.3 | 17080 | RR | 1121 | 1351 | 0 | 0 |
| 7 | 340.0 | 17680 | RR | 1122 | 1346 | 1 | 1 |
| 7 | 345.4 | 17790 | RR | 1115 | 1337 | 0 | 0 |
| 7 | 348.6 | 17570 | RR | 1113 | 1334 | 1 | 1 |
| 7 | 354.7 | 17300 | RR | 1108 | 1323 | 0 | 0 |
| 7 | 357.6 | 17280 | RR | 1105 | 1320 | 2 | 1 |
| 7 | 003.3 | 17340 | RR | 1102 | 1315 | 2 | 1 |

[i1] Samplers dropped during removal at sampling site; [illegible] not adjusted.

October 12, 1964 Experiment No. 29 Tracer Release from Site A: 2000 to 2100 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | x Part./m$^3$ |
|---|---|---|---|---|---|---|---|
| 1 | 29.6 | 930 | RR | 1921 | 2114 | 19 | 13 |
| 1 | 41.1 | 980 | RR | 1922 | 2111 | 1 | 1 |
| 1 | 80.6 | 780 | RR | 1932 | 2128 | 21 | 14 |
| 1 | 94.8 | 750 | RR | 1934 | 2130[1] | 7 | 5 |
| 1 | 105.7 | 770 | DP-9 | 1936:00 | 2134:15 | 64 | 26 |
| 1 | 118.0 | 770 | RR | 1942 | 2143 | 26,729 | 17,655 |
| 1 | 129.5 | 700 | RR | 1944 | 2146 | 85,002 | 56,144 |
| 1 | 143.6 | 670 | RR | 1945 | 2151 | 48,207 | 31,841 |
| 1 | 154.4 | 600 | RR | 1948 | 2153 | 84,108 | 55,553 |
| 2 | 031.6 | 3480 | RR | 1936 | 2130 | 41 | 27 |
| 2 | 042.9 | 3180 | RR | 1933 | 2134 | 42 | 28 |
| 2 | 053.6 | 3200 | RR | 1931 | 2137 | 24 | 16 |
| 2 | 065.4 | 3470 | DP-4 | 1926:05 | 2141:54 | 0 | 0 |
| 2 | 077.3 | 3270 | MF | 1920 | 2149 | 8 | 15 |
| 2 | 088.4 | 3070 | RR | 1946 | 2153 | 12 | 8 |
| 2 | 101.6 | 3150 | DP-5 | 1949:00 | 2155:40 | 0 | 0 |
| 2 | 112.0 | 3110 | RR | 1957 | 2202 | 13 | 9 |
| 2 | 122.6 | 3080 | RR | 1957 | 2205 | 37 | 24 |
| 2 | 134.2 | 3230 | RR | 2000 | 2209 | 4 | 3 |
| 2 | 143.8 | 3250 | RR | 2003 | 2211 | 25 | 17 |
| 3 | 034.8 | 7610 | RR | 2010 | 2247 | 2 | 1 |
| 3 | 041.6 | 7610 | RR | 2007 | 2245 | 18 | 12 |
| 3 | 048.7 | 7670 | RR | 2006 | 2242 | 1 | 1 |
| 3 | 055.1 | 7610 | RR | 2007 | 2240 | 0 | 0 |
| 3 | 061.6 | 7590 | RR | 1959 | 2237 | 1 | 1 |
| 3 | 072.5 | 7410 | MF | 1948 | 2224 | 0 | 0 |
| 3 | 079.4 | 7430 | MF | 1945 | 2218 | 2 | 4 |
| 3 | 084.7 | 7240 | MF | 1938 | 2212 | 0 | 0 |
| 3 | 088.2 | 7240 | RR | 1930 | 2206 | 0 | 0 |
| 3 | 094.2 | 7040 | DP-1 | 1959:45 | 2242:05 | 0 | 0 |
| 3 | 101.7 | 6880 | MF | 1952 | 2231 | 0 | 0 |
| 3 | 107.8 | 6580 | RR | 1951 | 2228 | 2 | 1 |
| 3 | 119.9 | 6380 | RR | 1946 | 2218 | 0 | 0 |
| 3 | 125.4 | 6370 | RR | 1940 | 2214 | 1 | 1 |
| 3 | 131.4 | 6470 | RR | 1937 | 2213 | 2 | 1 |
| 3 | 136.7 | 6250 | RR | 1936 | 2210 | 1 | 1 |
| 3 | 142.0 | 6180 | RR | 1934 | 2206 | 2 | 1 |

## Table 4 (continued). TOTAL DOSAGES AT SURFACE

October 16, 1964 Experiment No. 30 Tracer Release from Site B : 2000 to 2100 CST

| Arc | Azimuth (d·c) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m$^3$ |
|---|---|---|---|---|---|---|---|
| 4 | 293.9 | 2000 | RR | 1932 | 2122 | 0 | 0 |
| 4 | 307.2 | 1930 | RR | 1934 | 2125 | 6 | 4 |
| 4 | 315.6 | 2140 | RR | 1943 | 2134 | 26 | 17 |
| 4 | 323.4 | 1940 | DP-9 | 2009:00 | 2129:12 | 922 | 380 |
| 4 | 332.1 | 1980 | MF | 1946 | 2138 | 391 | 724 |
| 4 | 341.0 | 2030 | MF | 1948 | 2142 | 118 | 219 |
| 4 | 346.7 | 1970 | RR | 1949 | 2146 | 26 | 17 |
| 4 | 350.4 | 2010 | RR | 1950 | 2148 | 105 | 70 |
| 4 | 355.5 | 1910 | DP-3 | 1951:30 | 2151:50 | - [j1] | - |
| 4 | 001.0 | 1930 | MF | 1956 | 2200 | 2,334 | 4,323 |
| 4 | 008.9 | 1910 | RR | 1957 | 2203 | 9,191 | 6,100 |
| 4 | 020.8 | 1920 | RR | 1958 | 2204 | 16,223 | 10,767 |
| 5 | 296.1 | 4270 | RR | 1932 | 2145 | 0 | 0 |
| 5 | 308.7 | 4150 | RR | 1934 | 2150 | 0 | 0 |
| 5 | 321.2 | 4360 | RR | 1936 | 2153 | 0 | 0 |
| 5 | 324.7 | 4250 | DP-5 | 1938:00 | 2155:50 | 0 | 0 |
| 5 | 330.7 | 4240 | MF | 1945 | 2200 | 16 | 30 |
| 5 | 337.6 | 4120 | MF | 1948 | 2206 | 4 | 7 |
| 5 | 341.7 | 4220 | RR | 1954 | 2213 | 1 | 1 |
| 5 | 349.3 | 4310 | RR | 1955 | 2216 | 6 | 3 |
| 5 | 353.9 | 4250 | DP-4 | 1958:00 | 2221:20 | 0 | 0 |
| 5 | 005.6 | 4250 | RR | 2006 | 2228 | 1,906 | 1,265 |
| 5 | 017.0 | 4280 | RR | 2008 | 2230 | 8,155 | 5,412 |
| 6 | 291.9 | 7330 | RR[k1] | 1949 | 2230 | 0 | 0 |
| 6 | 297.0 | 7490 | RR[k1] | 1954 | 2233 | 1 | 1 |
| 6 | 304.8 | 7910 | RR[k1] | 1957 | 2237 | 0 | 0 |
| 6 | 312.8 | 8020 | RR[k1] | 1960 | 2239 | 0 | 0 |
| 6 | 318.9 | 7640 | MP[k1] | 2004 | 2245 | 0 | 0 |
| 6 | 328.5 | 8060 | MP[k1] | 2015 | 2301 | 0 | 0 |
| 6 | 332.6 | 7980 | MP[k1] | 1902 | 2311 | 0 | 0 |
| 6 | 344.4 | 8100 | RR[k1] | 2025 | 2304 | 1 | 1 |
| 6 | 354.9 | 8890 | RR[k1] | 2017 | 2245 | 0 | 0 |
| 6 | 001.3 | 8620 | MP[k1] | 2012 | 2236 | 0 | 0 |
| 6 | 007.3 | 8220 | RR[k1] | 2010 | 2232 | 22 | 15 |
| 6 | 013.4 | 7920 | RR[k1] | 2008 | 2230 | 77 | 51 |
| 6 | 018.2 | 8370 | RR[k1] | 2004 | 2225 | 398 | 264 |
| 6 | 339.0 | 7990 | RR[k1] | 2029 | 2309 | 0 | 0 |

[j1] Plastic rain cover left on intake orifice; no data obtained.

[k1] Samplers may have been turned off before the last elements of the tracer cloud reached them. No adjustments in the measured dosages were made since no significant losses of dosages were considered to have occurred.

October 17, 1964 Experiment No. 31 Tracer Release from Site A : 1315 to 1415 CST

| Arc | Azimuth (d·c) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m$^3$ |
|---|---|---|---|---|---|---|---|
| 1 | 4.0 | 940 | RR | 1256 | 1425 | 19,418 | 12,888 |
| 1 | 10.8 | 940 | RR | 1257 | 1426 | 8,145 | 5,406 |
| 1 | 14.4 | 950 | RR | 1259 | 1429 | 82 | 54 |
| 1 | 19.5 | 970 | RR | 1303 | 1434 | 33 | 22 |
| 1 | 22.7 | 980 | RR | 1303 | 1435 | 1 | 1 |
| 2 | 0.2 | 3390 | MF | 1259 | 1457 | 17 | 31 |
| 2 | 5.4 | 3360 | MF | 1255 | 1454 | 0 | 0 |
| 2 | 11.9 | 3370 | RR | 1255 | 1452 | 2 | 1 |
| 3 | 1.9 | 7000 | DP-8 | 1334:20 | 1552.15 | 0 | 0 |
| 3 | 8.3 | 7430 | RR | 1330 | 1545 | 2 | 1 |
| 3 | 30.1 | 6920 | DP-7 | 1318:25 | 1530:22 | 0 | 0 |
| 6 | 334.9 | 3330 | RR | 1314 | 1521 | 1,125 | 747 |
| 6 | 349.9 | 3440 | RR | 1310 | 1515 | 551 | 366 |
| 6 | 355.8 | 3450 | DP-4 | 1302:05 | 1505:03 | 162 | 61 |
| 7 | 343.2 | 13,100 | RR | 1334 | 1611 | 695 | 461 |
| 7 | 350.4 | 13,330 | RR | 1330 | 1606 | 28 | 19 |
| 7 | 354.7 | 13,210 | RR | 1328 | 1604 | 29 | 19 |
| 7 | 2.9 | 13,170 | DP-10 | 1324:25 | 1556:88 | 0 | 0 |
| 7 | 9.4 | 13,480 | RR[l1] | 1319 | 1551 | 47 | 31 |
| 7 | 13.8 | 13,640 | RR[l1] | 1317 | 1548 | 82 | 54 |
| 7 | 17.6 | 13,760 | RR[l1] | 1314 | 1545 | 137 | 91 |
| 7 | 21.3 | 13,990 | RR[l1] | 1311 | 1543 | 170 | 113 |
| 7 | 25.1 | 14,250 | DP-1[l1] | 1307:30 | 1535:00 | 26 | 10 |

[l1] Part of each listed, measured dosage considered to be contamination; no satisfactory method discovered for adjusting dosages.

# Table 4 (continued). TOTAL DOSAGES AT SURFACE

October 19, 1964 Experiment No. 32 Tracer Release from Site A : 1945 to 2045 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m$^3$ |
|---|---|---|---|---|---|---|---|
| 1 | 99.3 | 780 | RR | 1940 | 2131 | 5 | 3 |
| 1 | 110.9 | 740 | MF | 1938 | 2127 | 546 | 1,011 |
| 1 | 118.0 | 770 | RR | 1937 | 2125 | 60,152 | 39,857 |
| 1 | 122.1 | 680 | RR | 1936 | 2123 | 57,165 | 37,878 |
| 1 | 129.5 | 700 | RR | 1935 | 2122 | 83,018 | 55,008 |
| 1 | 137.9 | 670 | DP-3 | 1933:30 | 2115:47 | 155,163 | 62,732 |
| 1 | 143.6 | 670 | MF | 1931 | 2111 | 39,620 | 73,376 |
| 1 | 147.8 | 630 | RR | 1930 | 2110 | 121,128 | 80,259 |
| 1 | 154.5 | 600 | DP-9 | 1927:00 | 2103:55 | 243,557 | 100,224 |
| 1 | 161.4 | 590 | RR | 1925 | 2102 | 113,403 | 75,141 |
| 1 | 171.4 | 580 | RR | 1925 | 2101 | 90,228 | 59,785 |
| 1 | 182.5 | 600 | RR | 1924 | 2100 | 9,897 | 6,558 |
| 2 | 106.8 | 3190 | RR | 1918 | 2200 | 0 | 0 |
| 2 | 116.0 | 3380 | MF | 1920 | 2155 | 2 | 4 |
| 2 | 122.6 | 3080 | DP-4 | 1926:35 | 2143:30 | 905 | 342 |
| 2 | 129.1 | 3180 | RR | 1930 | 2137 | 8,123 | 5,382 |
| 2 | 134.2 | 3230 | RR | 1931 | 2136 | 11,475 | 7,603 |
| 2 | 138.7 | 3320 | DP-5 | 1934:00 | 2129:40 | 18,466 | 7,124 |
| 2 | 143.8 | 3250 | RR | 1940 | 2126 | 9,577 | 6,346 |
| 2 | 149.5 | 3280 | RR | 1939 | 2123 | 6,238 | 4,133 |
| 2 | 154.1 | 3230 | RR | 1945 | 2121 | 9,555 | 6,331 |
| 2 | 160.2 | 3180 | DP-12 | 1947:00 | 2110:03 | 18,897 | 7,954 |
| 2 | 167.0 | 3240 | RR | 1950 | 2106 | 1,693 | 1,122 |
| 2 | 178.0 | 3150 | RR | 1955 | 2102 | 1 | 1 |
| 3 | 104.8 | 6810 | RR | 1928 | 2128 | 1 | 1 |
| 3 | 110.8 | 6490 | RR | 1930 | 2130 | 1 | 1 |
| 3 | 123.0 | 6360 | MF | 1940 | 2143 | 2 | 4 |
| 3 | 119.9 | 6380 | RR | 1942 | 2148 | 0 | 0 |
| 3 | 128.5 | 6670 | MF | 1948 | 2154 | 654 | 1,211 |
| 3 | 125.4 | 6370 | RR | 1946 | 2151 | 49 | 32 |
| 3 | 131.4 | 6470 | MF | 1950 | 2157 | 647 | 1,198 |
| 3 | 133.7 | 6410 | RR | 1953 | 2200 | 5,861 | 3,883 |
| 3 | 136.7 | 6250 | DP-7 | 1956:34 | 2204:30 | 12,787 | 9,115 |
| 3 | 142.0 | 6180 | MF | 1949 | 2158 | 798 | 1,478 |
| 3 | 145.0 | 6380 | MF | 1947 | 2154 | 612 | 1,133 |
| 3 | 152.2 | 6780 | MF | 1943 | 2145 | 452 | 837 |
| 3 | 148.4 | 6660 | RR | 1945 | 2150 | 1,206 | 799 |
| 3 | 156.1 | 6740 | RR | 1939 | 2143 | 2,466 | 1,634 |
| 3 | 165.1 | 7450 | RR | 2032 | 2131 | 408 | 270 |
| 3 | 172.5 | 7450 | RR | 2028 | 2128 | 4 | 3 |

October 20, 1964 Experiment No. 33 Tracer Release from Site A : 1915 to 2015 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m$^3$ |
|---|---|---|---|---|---|---|---|
| 1 | 4.0 | 940 | RR | 1907 | 2058 | 103 | 68 |
| 1 | 10.8 | 940 | RR | 1908 | 2100 | 37,389 | 24,774 |
| 1 | 14.4 | 950 | RR | 1910 | 2103 | 236,900 | 156,970 |
| 1 | 22.7 | 980 | RR | 1904 | 2054 | 156,560 | 103.737 |
| 1 | 29.6 | 930 | MF | 1901 | 2049 | 5,828 | 10,793 |
| 1 | 35.4 | 910 | DP-3 | 1902:00 | 2043:45 | 4,718 | 1,907 |
| 1 | 41.1 | 980 | RR | 1857 | 2041 | 7 | 5 |
| 1 | 45.1 | 910 | MF | 1855 | 2039 | 8 | 15 |
| 1 | 51.7 | 820 | RR | 1854 | 2038 | 3 | 2 |
| 1 | 60.9 | 790 | DP-9 | 1852:15 | 2035:20 | 0 | 0 |
| 1 | 68.9 | 850 | MF | 1851 | 2029 | 0 | 0 |
| 1 | 80.6 | 780 | RR | 1848 | 2027 | 0 | 0 |
| 2 | 5.4 | 3360 | RR | 1913 | 2114 | 1 | 1 |
| 2 | 11.9 | 3370 | RR | 1912 | 2112 | 391 | 259 |
| 2 | 18.5 | 3400 | RR | 1910 | 2109 | 52,736 | 34,943 |
| 2 | 23.0 | 3350 | RR | 1908 | 2108 | 2,171 | 1,439 |
| 2 | 31.6 | 3480 | DP-5 | 1908:05 | 2106:45 | 0 | 0 |
| 2 | 28.0 | 3340 | RR | 1908 | 2107 | 21 | 14 |
| 2 | 36.9 | 3270 | RR | 1902 | 2053 | 0 | 0 |
| 2 | 42.9 | 3180 | MF | 1900 | 2055 | 0 | 0 |
| 2 | 53.6 | 3200 | RR | 1852 | 2043 | 0 | 0 |
| 2 | 60.2 | 3200 | RR | 1852 | 2041 | 2 | 1 |
| 2 | 72.3 | 3230 | RR | 1848 | 2035 | 0 | 0 |
| 3 | 8.3 | 7430 | RR | 1926 | 2143 | 5 | 3 |
| 3 | 13.3 | 7220 | RR | 1924 | 2141 | 2,946 | 1,952 |
| 3 | 19.6 | 6980 | DP-8 | 1917:10 | 2132:33 | 54,558 | 19,504 |
| 3 | 22.6 | 7190 | RR | 1915 | 2127 | 9,513 | 6,303 |
| 3 | 25.4 | 7230 | RR | 1910 | 2123 | 430 | 285 |
| 3 | 30.1 | 6920 | RR | 1912 | 2124 | 1 | 1 |
| 3 | 34.8 | 7610 | MF | 1902 | 2108 | 0 | 0 |
| 3 | 37.5 | 7740 | RR | 1901 | 2105 | 2 | 1 |
| 3 | 39.5 | 7690 | RR | 1925 | 2127 | 9 | 6 |
| 3 | 41.6 | 7610 | MF | 1923 | 2124 | 0 | 0 |
| 3 | 45.2 | 7590 | RR | 1921 | 2122 | 10 | 7 |
| 3 | 52.3 | 7490 | RR | 1917 | 2114 | 7 | 5 |
| 3 | 55.1 | 7610 | RR | 1914 | 2112 | 2 | 1 |
| 3 | 57.6 | 7510 | RR | 1913 | 2110 | 44 | 29 |
| 3 | 64.3 | 7410 | RR | 1911 | 2110 | 3 | 2 |
| 3 | 69.9 | 7410 | RR | 1909 | 2107 | 1 | 1 |
| 3 | 75.5 | 7420 | RR | 1907 | 2105 | 1 | 1 |

# Table 4 (continued). TOTAL DOSAGES AT SURFACE

October 21, 1964 Experiment No. 34 Tracer Release from SiteA :1920 to 2020 CST

| Arc | Azimuth (d.c) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m$^3$ |
|---|---|---|---|---|---|---|---|
| 1 | 143.6 | 670 | MF | 1905 | 2031 | 2 | 4 |
| 1 | 147.8 | 630 | RR | 1905 | 2030 | 32 | 21 |
| 1 | 154.5 | 600 | DP-9 | 1902:20 | 2048:30 | 0 | 0 |
| 1 | 161.4 | 590 | RR | 1902 | 2029 | 41 | 27 |
| 1 | 171.4 | 580 | RR | 1901 | 2028 | 2353 | 1559 |
| 1 | 182.5 | 600 | RR | 1900 | 2027 | 83,334 | 55,217 |
| 2 | 143.8 | 3250 | RR | 1906 | 2054 | 24 | 16 |
| 2 | 149.5 | 3280 | RR | 1904 | 2051 | 1 | 1 |
| 2 | 154.1 | 3230 | RR | 1901 | 2019 | 0 | 0 |
| 2 | 167.0 | 3240 | RR | 1849 | 2037 | 3 | 2 |
| 2 | 178.0 | 3150 | RR | 1853 | 2034 | 153 | 101 |
| 3 | 152.2 | 6780 | MF | 1906 | 2105 | 0 | 0 |
| 3 | 148.4 | 6660 | RR | 1904 | 2106 | 4 | 3 |
| 3 | 156.1 | 6740 | RR | 1908 | 2111 | 4 | 3 |
| 3 | 162.5 | 7210 | RR | 1914 | 2121 | 2 | 1 |
| 3 | 168.4 | 7510 | RR | 1918 | 2124 | 8 | 5 |
| 3 | 175.5 | 7290 | RR | 1926 | 2127 | 0 | 0 |
| 3 | 184.8 | 7170 | RR | 1930 | 2130 | 580 | 384 |

March 6, 1965 Experiment No. 35 Tracer Release from SiteA :1230 to1330 CST

| Arc | Azimuth (d.c) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m$^3$ |
|---|---|---|---|---|---|---|---|
| 1 | 110.9 | 740 | MF | 1215 | 1400 | 3,990[a1] | 7,389 |
| 1 | 118.0 | 770 | RR | 1212 | 1357 | 131,718 | 87,276 |
| 1 | 122.1 | 680 | RR | 1211 | 1355 | 81,577 | 54,053 |
| 1 | 129.5 | 700 | RR | 1210 | 1353 | 5,768 | 3,822 |
| 1 | 137.9 | 670 | DP-4[a2] | 1206:00 | 1347:35 | 22,000 | 8,310 |
| 1 | 143.6 | 670 | MF | 1303 | 1343 | 0 | 0 |
| 1 | 147.8 | 630 | RR | 1302 | 1341 | 11 | 7 |
| 1 | 154.5 | 600 | MF | 1201 | 1338 | 94 | 174 |
| 1 | 161.4 | 590 | RR | 1146 | 1336 | 7 | 5 |
| 1 | 171.4 | 580 | RR | 1145 | 1334 | 6 | 4 |
| 1 | 182.5 | 600 | RR | 1143 | 1333 | 6 | 4 |
| 2 | 116.0 | 3380 | MF | 1146 | 1430 | 3,748 | 6,941 |
| 2 | 122.6 | 3080 | MF | 1150 | 1425 | 3,090 | 5,649 |
| 2 | 129.1 | 3180 | RR | 1150 | 1421 | 3 | 2 |
| 2 | 134.2 | 3230 | RR | 1153 | 1419 | 2 | 1 |
| 2 | 143.8 | 3250 | RR | 1206 | 1406 | 3 | 2 |
| 2 | 149.5 | 3280 | RR | 1204 | 1403 | 4 | 3 |
| 2 | 154.1 | 3230 | RR | 1210 | 1359 | 184 | 122 |
| 2 | 167.0 | 3240 | RR | 1219 | 1349 | 3 | 2 |
| 2 | 178.0 | 3150 | RR | 1224 | 1345 | 6 | 3 |
| 3 | 113.5 | 6410 | RR | 1154 | 1412 | 6,100 | 4,042 |
| 3 | 119.9 | 6380 | RR | 1157 | 1415 | 4,896 | 3,244 |
| 3 | 123.0 | 6960 | RR | 1140 | 1417 | 835 | 553 |
| 3 | 129.4 | 6370 | RR | 1200 | 1421 | 0 | 0 |
| 3 | 138.5 | 6070 | RR | 1202 | 1424 | 1 | 1 |
| 3 | 133.7 | 6410 | RR | 1207 | 1432 | 3 | 2 |
| 3 | 139.2 | 6460 | RR | 1209 | 1444 | 0 | 0 |
| 3 | 142.0 | 6480 | RR | 1153 | 1405 | 1 | 1 |
| 3 | 148.4 | 6660 | RR | 1209 | 1417 | 5 | 3 |
| 3 | 152.2 | 6780 | RR | 1203 | 1430 | 6 | 4 |
| 3 | 156.1 | 6740 | RR | 1205 | 1422 | 10 | 7 |
| 3 | 162.5 | 7210 | RR | 1213 | 1431 | 2 | 1 |
| 3 | 172.5 | 7440 | RR | 1218 | 1438 | 1 | 1 |
| 3 | 168.4 | 7510 | RR | 1216 | 1435 | 5 | 3 |

[a1] Measured dosage of 1296 particles adjusted; plastic cover left on.

[a2] Sampler operated improperly until about 1300 CST; adjustment to the measured dosage considered unnecessary.

# Table 4 (continued). TOTAL DOSAGES AT SURFACE

March 7, 1965 Experiment No. 36 Tracer Release from Site A 1230 to 1330 CST

| Arm | Azimuth (d.c) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | N Part./m³ |
|---|---|---|---|---|---|---|---|
| 1 | 127.1 | 680 | RR | 1235 | 1355 | 73,039 | 15,266 |
| 1 | 129.5 | 700 | RR | 1134 | 1354 | 32,005 | 21,857 |
| 1 | 137.9 | 670 | MF | 1133 | 1351 | 10,558 | 19,553 |
| 1 | 143.6 | 670 | MF | 1130 | 1307 | 95,903 | 48,009 |
| 1 | 147.8 | 630 | RR | 1129 | 1346 | 91,030 | 60,314 |
| 1 | 154.5 | 600 | DP-A | 1202:00 | 1341:09 | - a/ | - |
| 1 | 161.6 | 590 | RR | 1128 | 1339 | 134,199 | 80,394 |
| 1 | 171.4 | 580 | RR | 1126 | 1338 | 75,522 | 50,041 |
| 1 | 182.9 | 600 | RR | 1125 | 1337 | 4,708 | 3,158 |
| 1 | 191.3 | 650 | RR | 1124 | 1335 | 56 | 37 |
| 2 | 129.1 | 1180 | RR | 1200 | 1427 | 1,747 | 1,158 |
| 2 | 134.2 | 1230 | RR | 1158 | 1425 | 4,166 | 2,750 |
| 2 | 138.7 | 1320 | MF | 1156 | 1422 | 1,170 | 2,167 |
| 2 | 143.8 | 1350 | RR | 1151 | 1418 | 2,883 | 1,910 |
| 2 | 149.5 | 1280 | RR | 1148 | 1416 | 2,490 | 1,650 |
| 2 | 154.1 | 1230 | RR | 1145 | 1413 | 3,402 | 2,254 |
| 2 | 160.2 | 1180 | DP-10 | 1139:54 | 1406:49 | 9,576 | 3,679 |
| 2 | 167.0 | 1240 | MF | 1137 | 1402 | 1,084 | 1,896 |
| 2 | 171.3 | 1140 | MF | 1136 | 1359 | 960 | 1,741 |
| 2 | 181.8 | 1370 | RR | 1208 | 1355 | 2 | 1 |
| 3 | 125.4 | 6370 | RR | 1209 | 1491 | 52 | 34 |
| 3 | 131.4 | 6470 | RR | 1207 | 1423 | 42 | 28 |
| 3 | 136.7 | 6250 | RR | 1209 | 1425 | 1,534 | 1,016 |
| 3 | 139.2 | 6140 | RR | 1210 | 1428 | 1,504 | 997 |
| 3 | 142.0 | 6180 | RR | 1211 | 1430 | 300 | 200 |
| 3 | 145.0 | 6380 | DP-8 | 1212:30 | 1431:57 | 881 | 115 |
| 3 | 148.4 | 6660 | RR | 1217 | 1440 | 737 | 488 |
| 3 | 152.2 | 6780 | RR | 1218 | 1442 | 1,609 | 1,066 |
| 3 | 156.1 | 6740 | RR | 1220 | 1444 | 2,290 | 1,491 |
| 3 | 159.3 | 6960 | DP-7 | 1220:00 | 1418:22 | - b/ | - |
| 3 | 162.5 | 7210 | RR | 1207 | 1434 | 1,940 | 1,289 |
| 3 | 165.2 | 7450 | RR | 1208 | 1436 | 1,979 | 1,313 |
| 3 | 168.4 | 7510 | RR | 1211 | 1439 | 598 | 396 |
| 3 | 172.5 | 7440 | RR | 1213 | 1431 | 164 | 109 |
| 3 | 175.5 | 7290 | RR | 1214 | 1433 | 3 | 2 |
| 3 | 184.8 | 7170 | RR | 1221 | 1439 | 24 | 16 |
| 3 | 179.1 | 7290 | RR | 1216 | 1436 | 5 | 3 |

a/ Measured dosage of 1936 particles disregarded; plastic rain cover blew over the air intake orifice at an unknown time.

b/ Measured dosage of 998 particles disregarded; sampler seemed to be operating improperly.

March 8, 1965 Experiment No. 37 Tracer Release from Site A 1030 to 1130 CST

| Arm | Azimuth (d.c) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | N Part./m³ |
|---|---|---|---|---|---|---|---|
| 1 | 99.3 | 750 | RR | 2014 | 2102 | 99,036 | 65,421 |
| 1 | 105.7 | 770 | MF | 2012 | 2102 | 140,680 | 297,579 |
| 1 | 110.9 | 740 | DP-A | 2008:50 | 2156:44 | 1,334,543 | 504,320 |
| 1 | 118.0 | 770 | RR | 2009 | 2155 | 9,213 | 6,109 |
| 1 | 122.1 | 680 | RR | 2007 | 2150 | 5,672 | 3,758 |
| 1 | 129.5 | 750 | RR | 2006 | 2148 | 49 | 32 |
| 1 | 143.6 | 670 | MF | 1959 | 2141 | 0 | 0 |
| 1 | 147.8 | 630 | RR | 1958 | 2140 | 6 | 4 |
| 1 | 154.5 | 600 | RR | 1956 | 2135 | 37 | 28 |
| 1 | 154.5 | 600 | MF | 1957 | 2137 | 14 | 10 |
| 2 | 101.6 | 1150 | RR | 2023 | 2205 | 12,747 | 8,459 |
| 2 | 112.0 | 1110 | RR | 2026 | 2221 | - a/ | - |
| 2 | 116.0 | 1380 | MF | 2019 | 2216 | 558 | 1,033 |
| 2 | 122.6 | 1080 | DP-10 | 2011:18 | 2209:05 | 0 | 0 |
| 2 | 129.1 | 1180 | RR | 2012 | 2208 | 1 | 1 |
| 2 | 134.2 | 1230 | RR | 2011 | 2204 | 3 | 2 |
| 2 | 143.8 | 1350 | RR | 2009 | 2153 | 2 | 1 |
| 2 | 149.5 | 1280 | RR | 2008 | 2150 | 1 | 1 |
| 2 | 154.1 | 1230 | RR | 1953 | 2147 | 2 | 1 |
| 2 | 167.0 | 1240 | RR | 1955 | 2145 | 0 | 0 |
| 3 | 101.7 | 6800 | RR | 2016 | 2305 | 61 | 40 |
| 3 | 107.8 | 6980 | RR | 2119 | 2307 | 11,149 | 7,387 |
| 3 | 110.8 | 6490 | RR | 2020 | 2309 | 11,873 | 7,900 |
| 3 | 115.5 | 6410 | RR | 2021 | 2311 | 3,843 | 2,548 |
| 3 | 126.7 | 6410 | DP-8 | 2030:35 | 2212:10 | 1,408 | 903 |
| 3 | 129.9 | 6380 | RR | 2027 | 2216 | 9 | 6 |
| 3 | 123.0 | 6360 | RR | 2028 | 2218 | 1 | 1 |
| 3 | 126.5 | 6370 | RR | 2030 | 2219 | 3 | 2 |
| 3 | 134.4 | 6470 | RR | 2007 | 2305 | 11 | 7 |
| 3 | 133.7 | 6410 | RR | 2009 | 2307 | 0 | 0 |
| 3 | 136.7 | 6250 | RR | 2010 | 2309 | 1 | 1 |
| 3 | 139.2 | 6140 | RR | 2040 | 2210 | 1 | 1 |
| 3 | 142.0 | 6180 | RR | 2043 | 2310 | 2 | 1 |
| 3 | 159.2 | 6780 | RR | 2004 | 2206 | 1 | 1 |
| 3 | 148.4 | 6660 | RR | 2002 | 2202 | 0 | 0 |
| 3 | 159.3 | 6960 | RR | 2046 | 2226 | 1 | 1 |
| 3 | 165.1 | 7450 | RR | 2048 | 2229 | 0 | 0 |

a/ Measured dosage of 3548 particles disregarded; collector rod damaged during removal at sampling site.

# Table 4 (continued). TOTAL DOSAGES AT SURFACE

March 13, 1953 — Experiment No. 39 — Shower Between Zero Hour (0500 to 1330 GCT)

| Arr | Azimuth (deg) | M(a) | Sample Type | Time In (GCT) | Time Off (GCT) | Dosage Rem. | D rem./hr |
|---|---|---|---|---|---|---|---|
| 1 | 49.0 | 750 | BG | 1135 | 1220 | 18 | 18 |
| 1 | 68.0 | 650 | BG-1 | 1135:00 | 1137:53 | 132 | 53 |
| 1 | 73.4 | 555 | BG | 1138 | 1303 | 105 | 150 |
| 1 | 80.6 | 850 | BG | 1139 | 1245 | 7,000 | 9,333 |
| 1 | 87.4 | 840 | BG | 1302 | 1347 | 1,140 | 2,143 |
| 1 | 90.3 | 780 | BG | 1303 | 1330 | 6,393 | 9,735 |
| 1 | 105.7 | 735 | BG | 1307 | 1350 | 1,845 | 3,380 |
| 1 | 115.9 | 710 | BG-A | 1309:00 | 1353:30 | 10,953 | 9,555 |
| 1 | 118.6 | 735 | BG | 1311 | 1408 | 17,007 | 13,250 |
| 1 | 120.3 | 690 | BG | 1312 | 1405 | 33,300 | 0,887 |
| 1 | 128.5 | 550 | BG | 1312 | 1403 | 36,313 | 39,303 |
| 1 | 137.7 | 495 | BG | 1313 | - | - | - |
| 2 | 40.2 | 1000 | BG | 1305 | 1342 | 135 | 112 |
| 2 | 52.1 | 1230 | BG | 1307 | 1418 | 258 | 258 |
| 2 | 63.0 | 1230 | BG | 1308 | 1436 | 2,133 | 1,409 |
| 2 | 88.4 | 1255 | BG-12 | 1137:40 | 1425:37 | 9,387 | 3,953 |
| 2 | 95.0 | 1080 | BG | 1309 | 1430 | 8,858 | 3,950 |
| 2 | 106.8 | 1230 | BG | 1311 | 1348 | 5,868 | 3,901 |
| 2 | 115.0 | 1185 | BG-10 | 1313:34 | 1418:39 | 16,273 | 6,227 |
| 2 | 121.6 | 1080 | BG | 1319 | 1407 | 9,253 | 7,877 |
| 2 | 128.1 | 1230 | BG | 1315 | 1357 | 6,060 | 4,466 |
| 2 | 138.7 | 1230 | BG | 1315 | 1355 | 5,483 | 3,739 |
| 2 | 149.5 | 1080 | BG | 1315 | 1400 | 3,006 | 0,444 |
| 3 | 42.4 | 1260 | BG | 1312 | 1413 | [illegible] | [illegible] |
| 3 | 57.4 | 1230 | BG | 1314 | 1413 | | |
| 3 | 80.1 | 1230 | BG | 1317 | 1444 | | |
| 3 | 95.1 | 1230 | BG | 1319 | 1449 | | |
| 3 | 99.4 | 1230 | BG | 1315 | 1439 | | |
| 3 | 84.7 | 1041 | BG-A | 1321:39 | 1419:30 | [illegible] | [illegible] |
| 3 | 96.0 | 1231 | BG | 1235 | 1501 | | |
| 3 | 94.2 | 1245 | BG | 1238 | 1503 | | |
| 3 | 97.6 | 1241 | BG-B | 1240:30 | 1506:05 | | |
| 3 | 104.8 | 1251 | BG | 1305 | 1511 | | |
| 3 | 105.7 | 1230 | BG | 1305 | 1510 | 1,753 | 1,157 |
| 3 | 110.8 | 1245 | BG | 1310 | 1442 | | |
| 3 | 116.7 | 1210 | BG-C | 1311:12 | 1447:12 | | |
| 3 | 121.6 | 1230 | BG | 1318 | 1456 | | |
| 3 | 129.9 | 1230 | BG | 1318 | 1453 | | |

March 13, 1953 — Experiment No. 38 — Shower Between Zero Hour (0500 to 1330 GCT)

| Arr | Azimuth (deg) | M(a) | Sample Type | Time In (GCT) | Time Off (GCT) | Dosage Rem. | D rem./hr |
|---|---|---|---|---|---|---|---|
| 1 | 49.0 | 750 | BG | 1135 | 1220 | 18 | 18 |
| 1 | 68.0 | 650 | BG-1 | 1135:00 | 1137:53 | 132 | 53 |
| 1 | 73.4 | 555 | BG | 1138 | 1303 | 105 | 150 |
| 1 | 80.6 | 850 | BG | 1139 | 1245 | 7,000 | 9,333 |
| 1 | 87.4 | 840 | BG | 1302 | 1347 | 1,140 | 2,143 |
| 1 | 90.3 | 780 | BG | 1303 | 1330 | 6,393 | 9,735 |
| 1 | 105.7 | 735 | BG | 1307 | 1350 | 1,845 | 3,380 |
| 1 | 115.9 | 710 | BG-A | 1309:00 | 1353:30 | 10,953 | 9,555 |
| 1 | 118.6 | 735 | BG | 1311 | 1408 | 17,007 | 13,250 |
| 1 | 120.3 | 690 | BG | 1312 | 1405 | 33,300 | 0,887 |
| 1 | 128.5 | 550 | BG | 1312 | 1403 | 36,313 | 39,303 |
| 1 | 137.7 | 495 | BG | 1313 | - | - | - |
| 2 | 40.2 | 1000 | BG | 1305 | 1342 | 135 | 112 |
| 2 | 52.1 | 1230 | BG | 1307 | 1418 | 258 | 258 |
| 2 | 63.0 | 1230 | BG | 1308 | 1436 | 2,133 | 1,409 |
| 2 | 88.4 | 1255 | BG-12 | 1137:40 | 1425:37 | 9,387 | 3,953 |
| 2 | 95.0 | 1080 | BG | 1309 | 1430 | 8,858 | 3,950 |
| 2 | 106.8 | 1230 | BG | 1311 | 1348 | 5,868 | 3,901 |
| 2 | 115.0 | 1185 | BG-10 | 1313:34 | 1418:39 | 16,273 | 6,227 |
| 2 | 121.6 | 1080 | BG | 1319 | 1407 | 9,253 | 7,877 |
| 2 | 128.1 | 1230 | BG | 1315 | 1357 | 6,060 | 4,466 |
| 2 | 138.7 | 1230 | BG | 1315 | 1355 | 5,483 | 3,739 |
| 2 | 149.5 | 1080 | BG | 1315 | 1400 | 3,006 | 0,444 |
| 3 | 42.4 | 1260 | BG | 1312 | 1413 | [illegible] | [illegible] |
| 3 | 57.4 | 1230 | BG | 1314 | 1413 | | |
| 3 | 80.1 | 1230 | BG | 1317 | 1444 | | |
| 3 | 95.1 | 1230 | BG | 1319 | 1449 | | |
| 3 | 99.4 | 1230 | BG | 1315 | 1439 | | |
| 3 | 84.7 | 1041 | BG-A | 1321:39 | 1419:30 | [illegible] | [illegible] |
| 3 | 96.0 | 1231 | BG | 1235 | 1501 | | |
| 3 | 94.2 | 1245 | BG | 1238 | 1503 | | |
| 3 | 97.6 | 1241 | BG-B | 1240:30 | 1506:05 | | |
| 3 | 104.8 | 1251 | BG | 1305 | 1511 | | |
| 3 | 105.7 | 1230 | BG | 1305 | 1510 | 1,753 | 1,157 |
| 3 | 110.8 | 1245 | BG | 1310 | 1442 | | |
| 3 | 116.7 | 1210 | BG-C | 1311:12 | 1447:12 | | |
| 3 | 121.6 | 1230 | BG | 1318 | 1456 | | |
| 3 | 129.9 | 1230 | BG | 1318 | 1453 | | |

[a] Power electrically turned off at about 1330 GCT; owing to the quantity of data obtained, no adjustment made to the measured dosage of 15 particles.

[b] Measured dosage of 1004 particles considered to be contamination.

## Table 4 (continued). TOTAL DOSAGES AT SURFACE

March 24, 1953 Experiment No. 10 Source Release Area Site A,1100 to 1300 GCT (HURTHLE)

| Run | Azimuth (deg) | Mix | Sampler Type | Time On (GCT) | Time Off (GCT) | Dosage Part. | $\frac{\text{Part.}}{\text{ft}^2}$ |
|---|---|---|---|---|---|---|---|
| 1 | 108.5 | Gas | 39-T | 1231:00 | 1241:55 | 0 | 0 |
| 1 | 171.4 | Gas | 80 | 1235 | 1250 | 90 | 69 |
| 1 | 134.4 | Gas | 80 | 1234 | 1245 | 10 | 7 |
| 1 | 111.3 | Gas | 80 | 1230 | 1237 | 23 | 25 |
| 1 | 139.2 | Gas | 80 | 1232 | 1249 | 14 | 10 |
| 1 | 145.0 | Gas | 80 | 1233 | 1247 | 3 | 3 |

a/ Sampler turned off at an unknown time by a person or persons unknown; assumed dosage of 75% particles disregarded.

b/ Sampler damaged on an unknown time by a person or persons unknown; assumed dosage of 100% particles disregarded.

c/ Samplers thought to have been turned off before the entire sporadic cloud reached them; measured dosages of 11, 27, 49, 200, 408, 1239, 1433, 1611, and 1932 particles respectively adjusted assuming a constant dosage gathered and notation time of sampler operation during cloud passage.

March 24, 1953 Experiment No. 10 Source Release Area Site A,1100 to 1300 GCT

| Run | Azimuth (deg) | Mix | Sampler Type | Time On (GCT) | Time Off (GCT) | Dosage Part. | $\frac{\text{Part.}}{\text{ft}^2}$ |
|---|---|---|---|---|---|---|---|
| A | 97.4 | Gas | 80 | 1150 | 1208 | 195 | 139 |
| A | 99.1 | Gas | 80 | 1149 | 1207 | 22,714 | 15,161 |
| A | 105.1 | Gas | 80 | 1148 | 1204 | 16,552 | 15,273 |
| A | 115.9 | Gas | 39-A | 1145:25 | 1200:27 | 296,868 | 111,416 |
| A | 118.0 | Gas | 80 | 1142 | 1159 | 96,817 | 64,398 |
| B | 102.1 | Gas | 80 | 1141 | 1157 | 101,727 | 69,440 |
| B | 109.9 | Gas | 80 | 1140 | 1154 | 25,338 | 17,359 |
| B | 127.9 | Gas | 80 | 1139 | 1151 | 17,273 | 11,830 |
| B | 141.6 | Gas | 39-B | 1135:30 | 1150:35 | 3,373 | 3,379 |
| B | 147.8 | Gas | 80 | 1135 | 1149 | 503 | 345 |
| A | 154.5 | Gas | 80 | 1134 | 1147 | 0 | 0 |
| A | 171.4 | Gas | 80 | 1133 | 1145 | 3 | 3 |
| D | 91.0 | Gas | 80 | 1150 | 1204 | 0 | 0 |
| D | 112.0 | Gas | 80 | 1147 | 1206 | 4,596 | 3,103 |
| D | 126.8 | Gas | 80 | 1146 | 1203 | 1,473 | 1,033 |
| D | 116.0 | Gas | 39-D | 1144:30 | 1157:40 | 8,936 | 3,756 |
| D | 122.4 | Gas | 80 | 1142 | 1159 | 3,330 | 2,291 |
| D | 129.1 | Gas | 80 | 1140 | 1158 | 2,990 | 2,048 |
| D | 136.0 | Gas | 80 | 1140 | 1158 | 838 | 570 |
| D | 138.7 | Gas | 39-D | 1144:45 | 1159:05 | 1,250 | 1,053 |
| D | 141.8 | Gas | 80 | 1141 | 1159 | 303 | 139 |
| D | 148.9 | Gas | 80 | 1139 | 1157 | 4 | 3 |
| D | 160.7 | Gas | 80 | 1137 | 1155 | 0 | 0 |
| C | 97.0 | Gas | 80 | 1156 | 1214 | 0 | 0 |
| C | 104.8 | Gas | 80 | 1155 | 1212 | 11 | 8 |
| C | 110.8 | Gas | 80 | 1153 | 1210 | 153 | 107 |
| C | 107.6 | Gas | 80 | 1152 | 1209 | 1,979 | 1,480 |
| C | 113.9 | Gas | 80 | 1150 | 1208 | 3,158 | 2,437 |
| C | 114.7 | Gas | 39-C | 1149:15 | 1205:15 | 6,868 | 2,437 |
| C | 119.9 | Gas | 80 | 1148 | 1206:12 | 1,907 | 1,358 |
| C | 124.5 | Gas | 39-C | 1147:00 | 1155 | 2,703 | 1,358 |
| C | 129.3 | Gas | 80 | 1145 | 1203 | 1,259 | 970 |
| C | 131.4 | Gas | 80 | 1144 | 1201 | 543 | 370 |
| C | 133.7 | Gas | 80 | 1139 | 1154 | 0 | 0 |
| C | 135.7 | Gas | 80 | 1140:00 | 1147:45 | 0 | 0 |
| C | 139.7 | Gas | 80 | 1141 | 1156 | 0 | 0 |
| C | 142.0 | Gas | 80 | 1140 | 1155 | 0 | 0 |
| C | 145.0 | Gas | 80 | 1140 | 1157 | 0 | 0 |
| C | 148.4 | Gas | 80 | 1139 | 1159 | 1 | 1 |

a/ Measured dosage of 140 particles adjusted; plastic dust cap left on.

## Table 4 (continued). TOTAL DOSAGES AT SURFACE

March 15, 1965 — Experiment No. 41[a] Tracer Release from Site A : 2050 to 2150 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m³ |
|---|---|---|---|---|---|---|---|
| 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 74 | 49 |
| 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 16 | 11 |
| 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 14 | [illegible] |
| 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2 | 4 |
| 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 0 |
| 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 14 | 10 |
| 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 110 | 75 |
| 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 0 |
| 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | - |
| 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1 | 1 |
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 0 |
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 0 |
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | - [c] | - |
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2 | 1 |
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 0 |
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 0 |
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 0 |
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1 | 1 |
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 0 |
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 0 |
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 0 |
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 0 |
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 0 |
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 0 |

March 15, 1965 — Experiment No. 41a[a] Tracer Release from Site A : 2050 to 2150 CST

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | X Part./m³ |
|---|---|---|---|---|---|---|---|
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 0 |
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2 | 1 |
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 0 |
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 17 | 11 |
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 16,800 |

[a] All samplers probably turned off before entire tracer cloud reached them; loss in dosage considered to be significant only for specific samplers on arcs 2 and 3; the measured dosages of [illegible] particles, respectively, were adjusted primarily on the basis of observed, crosswind dosage patterns on drum-pulsed samplers. A tracer cloud of 75 minutes duration and a constant travel speed were assumed. Measured dosages were then multiplied by 75/t, where t is time in minutes samplers operated during tracer cloud passage, to yield adjusted dosages; tracer cloud assumed to reach arcs 2 and 3 at [illegible] CST respectively.

[b] Sampler damaged during operation; measured dosage of 270 particles disregarded.

[c] Measured dosage of 1076 particles considered to be contamination.

## Table 4 (continued). TOTAL DOSAGES AT SURFACE

March 14, 1955 Experiment No. 12 Shaker Unknown Prop Fire 9: 0730z 1130 EST

| Run | Y-Centre (ft-s) | R(m) | Sampler Type | Time On (EST) | Time Off (EST) | Dosage Part./cc | Φ Part./ft² |
|---|---|---|---|---|---|---|---|
| 1 | 134.6 | 7680 | 88 | 0910 | 0945 | 10 | 7 |
| 2 | 135.4 | 7841 | 88 | 0921 | 0957 | 11 | 8 |
| 3 | 135.0 | 7680 | 88 | 0935 | 0930 | 0 | 0 |
| 4 | 134.5 | 8240 | 88 | 0930 | 0939 | 0 | 0 |

[1] Measured dosage of 2935 particles considered to be contamination.

[2] Shaker turned off at an unknown time by a person or process unknown, adjustment to the measured dosage was considered unnecessary.

[3] Plastic mole cones blew over and broken off/blew at an unknown time; measured dosage of 128 particles adjusted.

[4] Measured dosage of 32 particles considered to be contamination.

## Table 4 (continued). TOTAL DOSAGES AT SURFACE*

March 17, 1953 — Experiment No. [illegible] — [illegible]

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | E Part./m³ |
|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

March 17, 1953 — Experiment No. [illegible] (continued)

| Arc | Azimuth (deg) | R(m) | Sampler Type | Time On (CST) | Time Off (CST) | Dosage Part. | E Part./m³ |
|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

[illegible] Measured dosage of 111 particles considered to be contamination.

[illegible] Measured dosage of 13 particles disregarded; sample damaged.

TABLE 5. SEQUENTIAL DOSAGES AT SURFACE

Symbols

| | | |
|---|---|---|
| Azi(deg) | : | Azimuth to the nearest tenth of a degree of samplers from dissemination site |
| R(m) | : | Range to the nearest 10 meters of sampler from dissemination site |
| Dosage (Part.) | : | Number of (fluorescent) particles |
| Site A | : | Forest Park |
| Site B | : | Roof of the Knights of Columbus Building |



Preceding page blank

# Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 3
28 May 1963
Tracer Release:Site A
( 1000 to 1100 CST)
Arc: 1; Azi(deg): 105.7
R(m): 770 ; Drum No. 4

| Time (CST) | Dosage (Part.) |
|---|---|
| 1006:40 | |
| 07 | 271 |
| 08 | 3308 |
| 09 | 5405 |
| 10 | 7484 |
| 1011:40 | 4555 |
| 12 | 4366 |
| 13 | 4952 |
| 14 | 4820 |
| 15 | 3326 |
| 1016:40 | 3137 |
| 17 | 4706 |
| 18 | 3118 |
| 19 | 3780 |
| 20 | 3988 |
| 1021:40 | 5972 |
| 22 | 7428 |
| 23 | 9015 |
| 24 | 8694 |
| 25 | 7031 |
| 1026:40 | 4328 |
| 27 | 2759 |
| 28 | 522 |
| 29 | 240 |
| 30 | 51 |
| 1031:40 | 29 |
| 32 | 21 |
| 33 | 258 |
| 34 | 4320 |
| 35 | 7780 |

Experiment No. 3
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.4 (Con't)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1036:40 | 5480 |
| 37 | 7700 |
| 38 | 6420 |
| 39 | 6040 |
| 40 | 9520 |
| 1041:40 | 3580 |
| 42 | 530 |
| 43 | 292 |
| 44 | 1100 |
| 45 | 688 |
| 1046:40 | 322 |
| 47 | 858 |
| 48 | 2760 |
| 49 | 3440 |
| 50 | 612 |
| 1051:40 | 107 |
| 52 | 970 |
| 53 | 3780 |
| 54 | 902 |
| 55 | 492 |
| 1056:40 | 1365 |
| 57 | 8000 |
| 58 | 7840 |
| 59 | 5840 |
| 1100:40 | 4040 |
| 1101:40 | 4220 |
| 02 | 515 |
| 03 | 277 |
| 04 | 40 |
| 05 | 23 |
| 1106:40 | 6 |
| 07 | 0 |
| 08 | 6 |
| 09 | 15 |

Experiment No. 3
28 May 1963
Tracer Release:Site A
( 1000 to 1100 CST)
Arc: 2 ; Azi(deg): 112.0
R(m): 3110 ; Drum No. 1

| Time (CST) | Dosage (Part.) |
|---|---|
| 1012:32 | |
| 14 | 166 |
| 16 | 6 |
| 18 | 5 |
| 20 | 40 |
| 1022:32 | 142 |
| 24 | 511 |
| 26 | 1248 |
| 28 | 620 |
| 30 | 90 |
| 1032:32 | 21 |
| 34 | 36 |
| 36 | 135 |
| 38 | 470 |
| 40 | 855 |
| 1042:32 | 800 |
| 44 | 216 |
| 46 | 262 |
| 48 | 24 |
| 50 | 18 |
| 1052:32 | 41 |
| 54 | 30 |
| 56 | 6 |
| 58 | 1 |

Experiment No. 3
28 May 1963
Tracer Release:Site A
(1000 to 1100 CST)
Arc: 3; Azi(deg): 110.8
R(m): 6490; Drum No. 3

| Time (CST) | Dosage (Part.) |
|---|---|
| 1025:40 | |
| 27 | 5 |
| 29 | 9 |
| 31 | 388 |
| 33 | 398 |
| 1035:40 | 333 |
| 37 | 314 |
| 39 | 284 |
| 41 | 62 |
| 43 | 22 |
| 1045:40 | 0 |
| 47 | 0 |
| 49 | 22 |
| 51 | 22 |
| 53 | 10 |
| 1055:40 | 24 |
| 57 | 36 |
| 59 | 40 |
| 1101 | 10 |

Experiment No. 4
19 July 1963
Tracer Release:Site A
(1130 to 1230 CST)
Arc: 2; Azi(deg): 65.4
R(m): 3470; Drum No. 5

| Time (CST) | Dosage (Part.) |
|---|---|
| 1131:00 | |
| 33 | 96 |
| 35 | 1 |
| 37 | 0 |
| 39 | 1 |
| 1141:00 | 117 |
| 43 | 268 |
| 45 | 158 |
| 47 | 229 |
| 49 | 336 |
| 1151:00 | 308 |
| 53 | 55 |
| 55 | 16 |
| 57 | 8 |
| 59 | 1 |
| 1201:00 | 5 |
| 03 | 3 |
| 05 | 1 |
| 07 | 0 |
| 09 | 0 |
| 1111:00 | 1 |
| 13 | 148 |
| 15 | 362 |
| 17 | 525 |
| 19 | 465 |
| 1121:00 | 158 |
| 23 | 4 |
| 25 | 4 |
| 27 | 2 |
| 29 | 3 |
| 1131:00 | 0 |
| 33 | 2 |
| 35 | 0 |
| 37 | 33 |
| 39 | 87 |
| 1141:00 | 18 |
| 43 | 3 |
| 45 | 5 |
| 47 | 2 |

Experiment No. 5
22 July 1963
Tracer Release:Site B
(1104 to 1204 CST)
Arc: 4; Azi(deg): 27.6
R(m): 1970; Drum No. 2[a]

| Time (CST) | Dosage (Part.) |
|---|---|
| 1150:30 | |
| 51 | 18 |
| 52 | 33 |
| 53 | 19 |
| 54 | 36 |
| 1155:30 | 8 |
| 56 | 22 |
| 57 | 55 |
| 58 | 43 |
| 59 | 28 |
| 1200:30 | 73 |
| 01 | 105 |
| 02 | 88 |
| 03 | 91 |
| 04 | 68 |
| 1205:30 | 51 |
| 06 | 53 |
| 07 | 36 |
| 08 | 45 |
| 09 | 19 |
| 1210:30 | 5 |
| 11 | 5 |
| 12 | 8 |
| 13 | 2 |

[a] Bug found in collector (Table IV) orifice; total dosage adjusted but no satisfactory method discovered for adjusting the listed sequential patterns.

## Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 5
22 July 1963
Tracer Release:Site B
(1104 to 1204 CST)
Arc: 6; Azi(deg): 20.9
R(m): 8170; Drum No. 4

| Time (CST) | Dosage (Part.) |
|---|---|
| 1130:35 | |
| 34 | 42 |
| 38 | 63 |
| 42 | 71 |
| 46 | 42 |
| 1150:35 | 62 |
| 54 | 72 |
| 58 | 104 |
| 1202 | 59 |
| 06 | 54 |
| 1210:35 | 32 |
| 14 | 28 |
| 18 | 26 |
| 22 | 4 |
| 26 | 68 |
| 1230:35 | 61 |
| 34 | 42 |
| 38 | 5 |
| 42 | 1 |

Experiment No. 5
22 July 1963
Tracer Release:Site B
(1104 to 1204 CST)
Arc: 6; Azi(deg): 33.6
R(m): 8200; Drum No. 3

| Time (CST) | Dosage (Part.) |
|---|---|
| 1130:45 | |
| 34 | 69 |
| 38 | 36 |
| 42 | 32 |
| 46 | 40 |
| 1150:45 | 16 |
| 54 | 18 |
| 58 | 4 |
| 1202 | 7 |
| 06 | 3 |

Experiment No. 7
25 July 1963
Tracer Release:Site B
(1040 to 1140 CST)
Arc: 4; Azi(deg): 315.5
R(m): 2140; Drum No. 2

| Time (CST) | Dosage (Part.) |
|---|---|
| 1042:50 | |
| 44 | 21 |
| 46 | 5 |
| 48 | 47 |
| 50 | 201 |
| 1052:50 | 34 |
| 54 | 69 |
| 56 | 306 |
| 58 | 198 |
| 1100 | 209 |
| 1102:50 | 175 |
| 04 | 40 |
| 06 | 121 |
| 08 | 63 |
| 10 | 82 |
| 1112:50 | 100 |
| 14 | 75 |
| 16 | 210 |
| 18 | 253 |
| 20 | 53 |
| 1122:50 | 32 |
| 24 | 0 |
| 26 | 6 |
| 28 | 9 |
| 30 | 78 |
| 1132:50 | 342 |
| 34 | 191 |
| 36 | 240 |
| 38 | 55 |
| 40 | 15 |
| 1142:50 | 31 |
| 44 | 35 |
| 46 | 30 |
| 48 | 12 |
| 50 | 6 |

Experiment No. 7
25 July 1963
Tracer Release:Site B
(1040 to 1140 CST)
Arc: 5; Azi(deg): 315.3
R(m): 4050; Drum No. 5

| Time (CST) | Dosage (Part.) |
|---|---|
| 1048:38 | |
| 50 | 3 |
| 52 | 0 |
| 54 | 40 |
| 56 | 9 |
| 1058:38 | 10 |
| 1100 | 11 |
| 02 | 64 |
| 04 | 51 |
| 06 | 17 |
| 1108:38 | 42 |
| 10 | 11 |
| 12 | 17 |
| 14 | 72 |
| 16 | 21 |
| 1118:38 | 45 |
| 20 | 85 |
| 22 | 25 |
| 24 | 22 |
| 26 | 15 |
| 1128:38 | 9 |
| 30 | 0 |
| 32 | 0 |
| 34 | 5 |
| 36 | 7 |
| 1138:38 | 0 |
| 40 | 0 |
| 42 | 5 |
| 44 | 29 |
| 46 | 25 |
| 1148:38 | 41 |
| 50 | 15 |
| 52 | 1 |
| 54 | 1 |

Experiment No. 7
25 July 1963
Tracer Release:Site B
(1040 to 1140 CST)
Arc: 6; Azi(deg): 322.7
R(m): 8070; Drum No. 4

| Time (CST) | Dosage (Part.) |
|---|---|
| 1056:50 | |
| 1100 | 4 |
| 04 | 87 |
| 08 | 321 |
| 12 | 228 |
| 1116:50 | 154 |
| 20 | 412 |
| 24 | 215 |
| 28 | 291 |
| 32 | 146 |
| 1136:50 | 373 |
| 40 | 195 |
| 44 | 130 |
| 48 | 72 |
| 52 | 199 |
| 1156:50 | 336 |
| 1200 | 150 |
| 04 | 29 |

Experiment No. 8
26 July 1963
Tracer Release:Site B
(1045 to 1145 CST)
Arc: 4; Azi(deg): 355.2
R(m): 1910; Drum No. 2

| Time (CST) | Dosage (Part.) |
|---|---|
| 1112:50 | |
| 13 | 30 |
| 14 | 12 |
| 15 | 8 |
| 16 | 5 |
| 1117:50 | 0 |
| 18 | 0 |
| 19 | 808 |
| 20 | 1971 |
| 21 | 1516 |
| 1122:50 | 1416 |
| 23 | 1669 |
| 24 | 1204 |
| 25 | 659 |
| 26 | 1659 |
| 1127:50 | 1312 |
| 28 | 795 |
| 29 | 63 |
| 30 | 14 |
| 31 | 0 |
| 1132:50 | 0 |
| 33 | 0 |
| 34 | 0 |
| 35 | 0 |
| 36 | 0 |
| 1137:50 | 0 |
| 38 | 0 |
| 39 | 0 |
| 40 | 0 |
| 41 | 0 |
| 1142:50 | 0 |
| 43 | 0 |
| 44 | 5 |
| 45 | 5 |
| 46 | 77 |

# Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 8
[illegible]
Tracer Release:Site B
[illegible] to [illegible] CST)
Arc: [illegible] ; Azi(deg): [illegible]
R(m): [illegible] ; Drum No.2 (cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1147:50 | 396 |
| 48 | 680 |
| 49 | 635 |
| 50 | 649 |
| 51 | 361 |
| 1152:50 | 69 |
| 53 | 34 |
| 54 | 30 |
| 55 | 8 |

Experiment No. 8
26 July 1963
Tracer Release:Site B
(1045 to 1145 CST)
Arc: 5 ; Azi(deg): 349.3
R(m): 4310; Drum No. 5

| Time (CST) | Dosage (Part.) |
|---|---|
| 1105:45 | |
| 07 | 30 |
| 09 | 12 |
| 11 | 6 |
| 13 | 2 |
| 1115:45 | 7 |
| 17 | 322 |
| 19 | 393 |
| 21 | 95 |
| 23 | 34 |
| 1125:45 | 139 |
| 27 | 390 |
| 29 | 428 |
| 31 | 543 |
| 33 | 225 |
| 1135:45 | 153 |
| 37 | 83 |
| 39 | 132 |
| 41 | 9 |
| 43 | 16 |
| 1145:45 | 0 |
| 47 | 10 |
| 49 | 24 |
| 51 | 248 |
| 53 | 380 |
| 1155:45 | 390 |
| 57 | 645 |
| 59 | 210 |
| 1201 | 40 |
| 03 | 7 |
| 1205:45 | 6 |
| 07 | 7 |
| 09 | 2 |
| 11 | 6 |
| 13 | 1 |
| 1215:45 | 2 |
| 17 | 3 |

Experiment No. 8
26 July 1963
Tracer Release:Site B
(1045 to 1145 CST)
Arc:6 ; Azi(deg): 341.5
R(m): 7920; Drum No. 4

| Time (CST) | Dosage (Part.) |
|---|---|
| 1059:42 | |
| 1103 | 7 |
| 07 | 458 |
| 11 | 288 |
| 15 | 333 |
| 1119:42 | 385 |
| 23 | 180 |
| 27 | 482 |
| 31 | 659 |
| 35 | 649 |
| 1139:42 | 437 |
| 43 | 357 |
| 47 | 357 |
| 51 | 368 |
| 55 | 316 |
| 1159:42 | 149 |
| 1203 | 103 |
| 07 | 139 |
| 11 | 48 |
| 15 | 5 |

Experiment No. 9
12 September 1963
Tracer Release:Site A
(1115 to 1215 CST)
Arc:1 ; Azi(deg): 115.8
R(m): 750 ; Drum No. 4

| Time (CST) | Dosage (Part.) |
|---|---|
| 1121:06 | |
| 22 | 1228 |
| 23 | 538 |
| 24 | 566 |
| 25 | 718 |
| 1126:06 | 715 |
| 27 | 562 |
| 28 | 23 |
| 29 | 18 |
| 30 | 4 |
| 1131:06 | 7 |
| 32 | 7 |
| 33 | 3 |
| 34 | 4 |
| 35 | 1 |
| 1136:06 | 0 |
| 37 | 0 |
| 38 | 47 |
| 39 | 76 |
| 40 | 909 |
| 1141:06 | 17577 |
| 42 | 11605 |
| 43 | 1620 |
| 44 | 278 |
| 45 | 213 |
| 1146:06 | 68 |
| 47 | 56 |
| 48 | 15 |
| 49 | 4 |

Experiment No. 9
12 September 1963
Tracer Release:Site A
(1115 to 1215 CST)
Arc: 2; Azi(deg): 129.1
R(m): 3180; Drum No. 5

| Time (CST) | Dosage (Part.) |
|---|---|
| 1127:35 | |
| 29 | 135 |
| 31 | 940 |
| 33 | 659 |
| 35 | 140 |
| 1137:35 | 46 |
| 39 | 68 |
| 41 | 43 |
| 43 | 151 |
| 45 | 323 |
| 1147:35 | 1745 |
| 49 | 1162 |
| 51 | 677 |
| 53 | 152 |
| 55 | 53 |
| 1157:35 | 15 |
| 59 | 19 |
| 1201 | 6 |
| 03 | 2 |
| 05 | 4 |
| 1207:35 | 6 |
| 09 | 1 |
| 11 | 1 |
| 13 | 2 |
| 15 | 2 |
| 1217:35 | 2 |
| 19 | 119 |
| 21 | 123 |
| 23 | 54 |
| 25 | 21 |
| 1227:35 | 4 |

Experiment No. 9
12 September 1963
Tracer Release:Site A
(1115 to 1215 CST)
Arc: 3; Azi(deg): 126.5
R(m): 6670; Drum No. 5

| Time (CST) | Dosage (Part.) |
|---|---|
| 1150:09 | |
| 52 | 15 |
| 54 | 62 |
| 56 | 273 |
| 58 | 133 |
| 1200:09 | 90 |
| 02 | 20 |
| 04 | 5 |
| 06 | 2 |

## Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 11
16 September 1963
Tracer Release:Site B
(1100 to 1200 CST)
Arc:4 ; Azi(deg): 315.6
R(m): 2140; Drum No. 4

| Time (CST) | Dosage (Part.) |
|---|---|
| 1130:20 | |
| 31 | 39 |
| 32 | 265 |
| 33 | 1575 |
| 34 | 1221 |
| 1135:20 | 2075 |
| 36 | 1926 |
| 37 | 1818 |
| 38 | 1444 |
| 39 | 1135 |
| 1140:20 | 526 |
| 41 | 418 |
| 42 | 409 |
| 43 | 301 |
| 44 | 151 |
| 1145:20 | 180 |
| 46 | 121 |
| 47 | 120 |
| 48 | 129 |
| 49 | 138 |
| 1150:20 | 137 |
| 51 | 119 |
| 52 | 125 |
| 53 | 90 |
| 54 | 65 |
| 1155:20 | 31 |
| 56 | 190 |
| 57 | 210 |
| 58 | 299 |
| 59 | 310 |
| 1200:20 | 180 |
| 01 | 121 |
| 02 | 129 |
| 03 | 96 |
| 04 | 39 |

Experiment No. 11

Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.4(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1205:20 | 11 |
| 06 | 34 |
| 07 | 8 |
| 08 | 23 |
| 09 | 6 |
| 1210:20 | 9 |
| 11 | 4 |
| 12 | 7 |
| 13 | 10 |
| 14 | 2 |

Experiment No. 11
16 September 1963
Tracer Release:Site B
(1100 to 1200 CST)
Arc: 5; Azi(deg): 324.7
R(m): 4250; Drum No. 1

| Time (CST) | Dosage (Part.) |
|---|---|
| 1107:50 | |
| 09 | 25 |
| 11 | 18 |
| 13 | 27 |
| 15 | 4 |
| 1117:50 | 13 |
| 19 | 18 |
| 21 | 2 |
| 23 | 2 |
| 25 | 47 |
| 1127:50 | 12 |
| 29 | 12 |
| 31 | 66 |
| 33 | 14 |
| 35 | 181 |
| 1137:50 | 229 |
| 39 | 111 |
| 41 | 117 |
| 43 | 325 |
| 45 | 697 |
| 1147:50 | 196 |
| 49 | 33 |
| 51 | 98 |
| 53 | 121 |
| 55 | 143 |
| 1157:50 | 205 |
| 59 | 110 |
| 1201 | 69 |
| 03 | 105 |
| 05 | 318 |
| 1207:50 | 310 |
| 09 | 323 |
| 11 | 135 |
| 13 | 42 |

Experiment No. 11
16 September 1963
Tracer Release:Site B
(1100 to 1200 CST)
Arc:6 ; Azi(deg): 322.7
R(m): 8070; Drum No. 3

| Time (CST) | Dosage (Part.) |
|---|---|
| 1140:45 | |
| 42 | 9 |
| 44 | 20 |
| 46 | 42 |
| 48 | 67 |
| 1150:45 | 93 |
| 52 | 101 |
| 54 | 62 |
| 56 | 41 |
| 58 | 81 |
| 1200:45 | 123 |
| 02 | 55 |
| 04 | 36 |
| 06 | 23 |
| 08 | 12 |
| 1210:45 | 19 |
| 12 | 10 |
| 14 | 35 |
| 16 | 71 |
| 18 | 138 |
| 1220:45 | 183 |
| 22 | 131 |
| 24 | 74 |
| 26 | 31 |
| 28 | 19 |
| 1230:45 | 4 |
| 32 | 3 |

Experiment No. 12
17 September 1963
Tracer Release:Site B
(2000 to 2030 CST)
Arc: 4; Azi(deg): 307.2
R(m): 1930; Drum No. 4

| Time (CST) | Dosage (Part.) |
|---|---|
| 2033:20 | |
| 34 | 1 |
| 35 | 0 |
| 36 | 1 |
| 37 | 12 |
| 2038:20 | 19 |
| 39 | 48 |
| 40 | 23 |
| 41 | 41 |
| 42 | 71 |
| 2043:20 | 50 |
| 44 | 15 |
| 45 | 20 |
| 46 | 25 |
| 47 | 23 |
| 2048:20 | 27 |
| 49 | 31 |
| 50 | 16 |
| 51 | 18 |
| 52 | 4 |

Experiment No. 12
17 September 1963
Tracer Release:Site B
(2000 to 2030 CST)
Arc: 5; Azi(deg): 330.7
R(m): 4240; Drum No. 5

| Time (CST) | Dosage (Part.) |
|---|---|
| 2119:00 | |
| 21 | 1 |
| 23 | 3 |
| 25 | 1 |
| 27 | 0 |
| 2129:00 | 1 |
| 31 | 4 |
| 33 | 4 |
| 35 | 5 |
| 37 | 4 |
| 2139:00 | 2 |
| 41 | 7 |
| 43 | 4 |
| 45 | 3 |
| 47 | 3 |
| 2149:00 | 6 |
| 51 | 0 |
| 53 | 2 |

# Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 13
18 September 1963
Tracer Release:Site B
(2000 to 2100 CST)
Arc:5 ; Azi(deg): 321.2
R(m): 4360; Drum No. 5

| Time (CST) | Dosage (Part.) |
|---|---|
| 2218:45 | |
| 20 | 8 |
| 22 | 2 |
| 24 | 5 |

Experiment No. 13
18 September 1963
Tracer Release:Site B
(2000 to 2100 CST)
Arc: 5; Azi(deg): 330.7
R(m): 4240; Drum No. 2

| Time (CST) | Dosage (Part.) |
|---|---|
| 2220:30 | |
| 22 | 1 |
| 24 | 5 |
| 26 | 2 |
| 28 | 8 |
| 2230:30 | 8 |
| 32 | 3 |

Experiment No. 13
18 September 1963
Tracer Release:Site B
(2000 to 2100 CST)
Arc: 5; Azi(deg): 337.6
R(m): 4120; Drum No. 1

| Time (CST) | Dosage (Part.) |
|---|---|
| 2201:40 | |
| 03 | 10 |
| 05 | 33 |
| 07 | 40 |
| 09 | 22 |
| 2211:40 | 39 |
| 13 | 24 |
| 15 | 45 |
| 17 | 20 |
| 19 | 23 |
| 2221:40 | 131 |
| 23 | 165 |
| 25 | 201 |
| 27 | 257 |
| 29 | 231 |
| 2231:40 | 168 |
| 33 | 153 |
| 35 | 147 |
| 37 | 127 |
| 39 | 94 |
| 2241:40 | 138 |
| 43 | 129 |
| 45 | 148 |
| 47 | 7 |

Experiment No. 14
1 April 1964
Tracer Release:Site B
(1200 to 1300 CST)
Arc: 4; Azi(deg): 332.1
R(m): 1980; Drum No. 3

| Time (CST) | Dosage (Part.) |
|---|---|
| 1204:25 | |
| 05 | 122 |
| 06 | 602 |
| 07 | 182 |
| 08 | 224 |
| 1209:25 | 318 |
| 10 | 371 |
| 11 | 503 |
| 12 | 312 |
| 13 | 298 |
| 1214:25 | 80 |
| 15 | 22 |
| 16 | 3 |
| 17 | 55 |
| 18 | 165 |
| 1219:25 | 98 |
| 20 | 18 |
| 21 | 8 |
| 22 | 4 |
| 23 | 2 |
| 1224:25 | 162 |
| 25 | 136 |
| 26 | 46 |
| 27 | 27 |
| 28 | 12 |
| 1229:25 | 3 |
| 30 | 0 |
| 31 | 0 |
| 32 | 0 |
| 33 | 0 |
| 1234:25 | 0 |
| 35 | 0 |
| 36 | 0 |
| 37 | 0 |
| 38 | 0 |

Experiment No. 14
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 3(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1239:25 | 0 |
| 40 | 0 |
| 41 | 0 |
| 42 | 0 |
| 43 | 0 |
| 1244:25 | 0 |
| 45 | 0 |
| 46 | 0 |
| 47 | 0 |
| 48 | 0 |
| 1249:25 | 0 |
| 50 | 0 |
| 51 | 0 |
| 52 | 0 |
| 53 | 0 |
| 1254:25 | 0 |
| 55 | 0 |
| 56 | 21 |
| 57 | 6 |
| 58 | 1 |
| 1259:25 | 190 |
| 1300 | 263 |
| 01 | 394 |
| 02 | 331 |
| 03 | 69 |
| 1304:25 | 36 |
| 05 | 17 |

Experiment No. 14
1 April 1964
Tracer Release:Site B
(1200 to 1300 CST)
Arc: 5; Azi(deg): 321.2
R(m): 4360; Drum No. 4

| Time (CST) | Dosage (Part.) |
|---|---|
| 1218:40 | |
| 20 | 2 |
| 22 | 5 |
| 24 | 14 |
| 26 | 5 |
| 1228:40 | 14 |
| 30 | 38 |
| 32 | 75 |
| 34 | 9 |
| 36 | 52 |
| 1238:40 | 47 |
| 40 | 4 |
| 42 | 12 |
| 44 | 14 |
| 46 | 103 |
| 1248:40 | 50 |
| 50 | 59 |
| 52 | 53 |
| 54 | 9 |
| 56 | 17 |
| 1258:40 | 131 |
| 1300 | 100 |
| 02 | 24 |
| 04 | 106 |
| 06 | 5 |
| 1308:40 | 2 |
| 10 | 2 |

## Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 14
1 April 1964
Tracer Release: Site B
(1200 to 1300 CST)
Arc: 6; Azi(deg): 316.0
R(m): 7790 ; Drum No. 7

| Time (CST) | Dosage (Part.) |
|---|---|
| 1216:20 | |
| 18 | 13 |
| 20 | 21 |
| 22 | 15 |
| 24 | 17 |
| 1226:20 | 7 |
| 28 | 3 |
| 30 | 51 |
| 32 | 74 |
| 34 | 74 |
| 1236:20 | 170 |
| 38 | 149 |
| 40 | 150 |
| 42 | 152 |
| 44 | 120 |
| 1246:20 | 96 |
| 48 | 188 |
| 50 | 178 |
| 52 | 123 |
| 54 | 30 |
| 1256:20 | 12 |
| 58 | 12 |
| 1300 | 64 |
| 02 | 220 |
| 04 | 193 |
| 1306:20 | 131 |
| 08 | 83 |
| 10 | 39 |
| 12 | 19 |
| 14 | 4 |
| 1316:20 | 0 |
| 18 | 2 |
| 20 | 2 |
| 22 | 2 |

Experiment No. 14
1 April 1964
Tracer Release: Site B
(1200 to 1300 CST)
Arc: 6; Azi(deg): 332.6
R(m): 790; Drum No. 10[b]

| Time (CST) | Dosage (Part.) |
|---|---|
| 1145:45 | |
| 1147:00 | (114) |
| 49 | (62) |
| 51 | (46) |
| 53 | (53) |
| 1155:00 | (48) |
| 57 | (58) |
| 59 | (38) |
| 1201 | (42) |
| 03 | (42) |
| 1205:00 | (67) |
| 07 | (76) |
| 09 | (71) |
| 11 | (58) |
| 13 | (56) |
| 1215:00 | (46) |
| 17 | (80) |
| 19 | (53) |
| 21 | (66) |
| 23 | (60) |
| 1225:00 | (49) |
| 27 | (58) |
| 29 | (47) |
| 31 | (48) |
| 33 | (48) |
| 1235:00 | (31) |
| 37 | (49) |
| 39 | (42) |
| 41 | (47) |
| 43 | (41) |

Experiment No. 14
Tracer Release: Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 10[b] (cont.)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1245:00 | (52) |
| 47 | (56) |
| 49 | (45) |
| 51 | (52) |
| 53 | (52) |
| 1255:00 | (39) |
| 57 | (56) |
| 59 | (43) |
| 1301 | (39) |
| 03 | (67) |
| 1305:00 | (48) |
| 07 | (29) |
| 09 | (43) |
| 11 | (44) |
| 13 | (48) |
| 1315:00 | (54) |
| 17 | (48) |
| 19 | (49) |
| 21 | (39) |
| 23 | (46) |
| 1325:00 | (51) |
| 27 | (53) |
| 29 | (47) |
| 31 | (41) |
| 33 | (48) |
| 1335:00 | (46) |
| 7:00 | (58) |
| 1337:55 | (3) |

[b]Sequential dosage patterns listed in parentheses; entire measured dosage considered to be contamination.

Experiment No. 15
6 April 1964
Tracer Release: Site B
(2040 to 2140 CST)
Arc: 4 ; Azi(deg): 8.9
R(m): 1910; Drum No. 8[c]

| Time (CST) | Dosage (Part.) |
|---|---|
| 2046:30 | |
| 48 | 329 |
| 50 | 2244 |
| 52 | 3427 |
| 54 | 1363 |
| 2056:30 | 20 |
| 58 | 4 |
| 2100 | 1 |
| 02 | 4 |

Experiment No. 15
6 April 1964
Tracer Release: Site B
(2040 to 2140 CST)
Arc: 5; Azi(deg): 25.9
R(m): 4410; Drum No. 1

| Time (CST) | Dosage (Part.) |
|---|---|
| 2054:24 | |
| 56 | 1 |
| 58 | 162 |
| 2100 | 60 |

Experiment No. 16
7 April 1964
Tracer Release: Site A
(2048 to 2148 CST)
Arc: 1 ; Azi(deg): 137.9
R(m): 670 ; Drum No. 8

| Time (CST) | Dosage (Part.) |
|---|---|
| 2100:30 | |
| 01 | 1112 |
| 02 | 3956 |
| 03 | 3636 |
| 04 | 2906 |
| 2105:30 | 4903 |
| 06 | 7842 |
| 07 | 4151 |
| 08 | 4082 |
| 09 | 299 |
| 2110:30 | 195 |
| 11 | 1010 |
| 12 | 693 |
| 13 | 899 |
| 14 | 1404 |
| 2115:30 | 1290 |
| 16 | 114 |
| 17 | 53 |
| 18 | 948 |
| 19 | 735 |
| 2120:30 | 346 |
| 21 | 223 |
| 22 | 377 |
| 23 | 445 |
| 24 | 123 |
| 2125:30 | 42 |
| 26 | 240 |
| 27 | 3427 |
| 28 | 3427 |
| 29 | 2786 |
| 2130:30 | 3009 |
| 31 | 3705 |
| 32 | 3176 |
| 33 | 3595 |
| 34 | 1467 |

[c]Plastic rain cover blew over intake orifice at an unknown time; adjustment to measured dosage considered unnecessary.

## Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

| Experiment No. 15 | | Experiment No. 16, 7 April 1964 | | Experiment No. 16, 7 April 1964 | | Experiment No. 16 | | Experiment No. 18, 9 April 1964 | | Experiment No. 18 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Tracer Release:Site ( to GMT) | | Tracer Release:Site A (2048 to 2148 GMT) | | Tracer Release:Site A (2048 to 2148 GMT) | | Tracer Release:Site ( to GMT) | | Tracer Release:Site A (2045 to 2145 GMT) | | Tracer Release:Site ( to GMT) | |
| Arc: ; Az(deg): | | Arc: 2; Az(deg): 135.7 | | Arc: 3; Az(deg): 131.4 | | Arc: ; Az(deg): | | Arc: 1; Az(deg): 29.6 | | Arc: ; Az(deg): | |
| R(m): ; Drum No. 8(cont) | | R(m): [illegible]; Drum No. 4 | | R(m): [illegible]; Drum No. 10 | | R(m): ; Drum No. 10(cont) | | R(m): [illegible]; Drum No. 8 | | R(m): ; Drum No. 8(cont) | |
| Time (GMT) | Dosage (Part.) | Time (GMT) | Dosage (Part.) | Time (GMT) | Dosage (Part.) | Time (GMT) | Dosage (Part.) | Time (GMT) | Dosage (Part.) | Time (GMT) | Dosage (Part.) |
| 2135:30 | 2086 | 2105:30 | | 2105:30 | | 2215:30 | 3 | 2051:30 | | 2126:30 | 15946 |
| 36 | 6979 | 08 | 107 | 07 | 24 | 17 | 10 | 52 | 108 | 27 | 11700 |
| 37 | 6068 | 10 | 677 | 09 | 15 | 19 | 7 | 53 | 618 | 28 | 12548 |
| 38 | 4862 | 12 | 579 | 11 | 73 | 21 | 8 | 54 | 2104 | 29 | 12090 |
| 39 | 3956 | 14 | 396 | 13 | 244 | 23 | 15 | 55 | 4770 | 30 | 9766 |
| | | | | | | | | | | | |
| 2140:30 | 4054 | 2115:30 | 108 | 2115:30 | 295 | 2225:30 | 1 | 2056:30 | 5000 | 2131:30 | 6898 |
| 41 | 9952 | 18 | 52 | 17 | 263 | 27 | 9 | 57 | 6130 | 32 | 11830 |
| 42 | 8038 | 20 | 17 | 19 | 277 | 29 | 6 | 58 | 17875 | 33 | 10890 |
| 43 | 6491 | 22 | 29 | 21 | 351 | 31 | 6 | 59 | 20090 | 34 | 12460 |
| 44 | 4911 | 24 | 14 | 23 | 230 | | | 2100 | 7430 | 35 | 13030 |
| | | | | | | | | | | | |
| 2145:30 | 717 | 2125:30 | 8 | 2125:30 | 250 | | | 2101:30 | 3770 | 2136:30 | 21310 |
| 46 | 86 | 28 | 1 | 27 | 209 | | | 02 | 7163 | 37 | 12890 |
| 47 | 394 | 30 | 2 | 29 | 247 | | | 03 | 2866 | 38 | 14686 |
| 48 | 1115 | 32 | 9 | 31 | 206 | | | 04 | 3174 | 39 | 18695 |
| 49 | 187 | 34 | 204 | 33 | 221 | | | 05 | 4271 | 40 | 13640 |
| | | | | | | | | | | | |
| 2150:30 | 752 | 2135:30 | 468 | 2135:30 | 254 | | | 2106:30 | 2532 | 2141:30 | 26025 |
| 51 | 48 | 38 | 361 | 37 | 200 | | | 07 | 7566 | 42 | 23896 |
| 52 | 7 | 40 | 228 | 39 | 107 | | | 08 | 4366 | 43 | 27895 |
| 53 | 76 | 42 | 168 | 41 | 86 | | | 09 | 9995 | 44 | 21086 |
| 54 | 13 | 44 | 209 | 43 | 107 | | | 10 | 2566 | 45 | 73135 |
| | | | | | | | | | | | |
| 2155:30 | 6 | 2145:30 | 114 | 2145:30 | 28 | | | 2111:30 | 2463 | 2146:30 | 45096 |
| 56 | 6 | 48 | 187 | 47 | 17 | | | 12 | 2435 | 47 | 7712 |
| 57 | 1 | 50 | 834 | 49 | 19 | | | 13 | 2966 | 48 | 45846 |
| 58 | 1 | 52 | 117 | 51 | 98 | | | 14 | 4647 | 49 | 14636 |
| 59 | 3 | 54 | 16 | 53 | 101 | | | 15 | 8954 | 50 | 39686 |
| | | | | | | | | | | | |
| 2200:30 | 9 | 2155:30 | 3 | 2155:30 | 111 | | | 2116:30 | 14338 | 2151:30 | 35040 |
| 01 | 8 | 58 | 1 | 57 | 182 | | | 17 | 12060 | 52 | 25060 |
| 02 | 24 | | | 59 | 135 | | | 18 | 7566 | 53 | 10806 |
| 03 | 11 | | | 2201 | 89 | | | 19 | 10935 | 54 | 12140 |
| 04 | 6 | | | 03 | 40 | | | 20 | 15580 | 55 | 6966 |
| | | | | | | | | | | | |
| 2205:30 | 9 | | | 2205:30 | 32 | | | 2121:30 | 13066 | 2156:30 | 3986 |
| 06 | 5 | | | 07 | 13 | | | 22 | 13886 | 57 | 4686 |
| 07 | 12 | | | 09 | 14 | | | 23 | 14335 | 58 | 7040 |
| 08 | 11 | | | 11 | 5 | | | 24 | 16180 | 59 | 3666 |
| 09 | 14 | | | 13 | 10 | | | 25 | 15180 | 2200 | 36 |
| | | | | | | | | | | | |
| 2210:30 | 6 | | | | | | | | | 2201:30 | 17 |
| 11 | 4 | | | | | | | | | 02 | 12 |
| 12 | 13 | | | | | | | | | 03 | 114 |
| 13 | 139 | | | | | | | | | | |

## Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 18
9 April 1964
Tracer Release: Site A
(2045 to 2145 GST)
Arc: 2; Azi(deg): 31.6
R(m): 3400 ; Drum No. 9

| Time (GST) | Dosage (Part.) |
|---|---|
| 2105:20 | |
| 07 | 13 |
| 09 | 56 |
| 11 | 214 |
| 13 | 556 |
| 2115:20 | 779 |
| 17 | 859 |
| 19 | 884 |
| 21 | 955 |
| 23 | 820 |
| 2125:20 | 1508 |
| 27 | 1604 |
| 29 | 1766 |
| 31 | 1228 |
| 33 | 1775 |
| 2135:20 | 2584 |
| 37 | 2618 |
| 39 | 2506 |
| 41 | 2257 |
| 43 | 1479 |
| 2145:20 | 905 |
| 47 | 885 |
| 49 | 1010 |
| 51 | 1147 |
| 53 | 858 |
| 2155:20 | 510 |
| 57 | 690 |
| 59 | 490 |
| 2201 | 579 |
| 03 | 344 |
| 2205:20 | 262 |
| 07 | 130 |
| 09 | 130 |
| 11 | 74 |

Experiment No. 18
9 April 1964
Tracer Release: Site A
(2045 to 2145 GST)
Arc: 2; Azi(deg): 48.7
R(m): 3475; Drum No. 1

| Time (GST) | Dosage (Part.) |
|---|---|
| 2046:05 | |
| 48 | 174 |
| 50 | 14 |
| 52 | 6 |
| 54 | 10 |
| 2056:05 | 8 |
| 58 | 6 |
| 2100 | 6 |
| 02 | 4 |
| 04 | 3 |
| 2106:05 | 2 |
| 08 | 8 |
| 10 | 7 |

Experiment No. 18
9 April 1964
Tracer Release: Site A
(2045 to 2145 GST)
Arc: 3; Azi(deg): 19.6
R(m): 5000; Drum No. 7

| Time (GST) | Dosage (Part.) |
|---|---|
| 2133:15 | |
| 37 | 5 |
| 39 | 5 |
| 2041 | 11 |
| 03 | 36 |
| 2205:15 | 24 |
| 07 | 28 |
| 09 | 32 |
| 11 | 33 |
| 13 | 58 |
| 2215:15 | 67 |
| 17 | 99 |
| 19 | 95 |
| 21 | 71 |
| 23 | 73 |
| 2225:15 | 70 |
| 27 | 114 |
| 29 | 118 |
| 31 | 114 |
| 33 | 174 |
| 2235:15 | 129 |
| 37 | 143 |
| 39 | 138 |
| 41 | 95 |
| 43 | 94 |
| 2245:15 | 44 |
| 47 | 34 |
| 49 | 24 |

Experiment No. 18
9 April 1964
Tracer Release: Site A
(2045 to 2145 GST)
Arc: 3; Azi(deg): 37.5
R(m): 7760; Drum No. 3[a]

| Time (GST) | Dosage (Part.) |
|---|---|
| 2024:52 | |
| 26 | (6) |
| 28 | (12) |
| 30 | (4) |
| 32 | (1) |
| 2034:52 | (2) |
| 36 | (8) |
| 38 | (6) |
| 40 | (8) |
| 42 | (4) |
| 2044:52 | (12) |
| 46 | (6) |
| 48 | (8) |
| 50 | (5) |
| 52 | (7) |
| 2054:52 | (15) |
| 56 | (9) |
| 58 | (1) |
| 2100 | (9) |
| 02 | (2) |
| 2104:52 | (16) |
| 06 | (8) |
| 08 | (3) |
| 10 | (18) |
| 12 | (3) |

Experiment No. 19

Tracer Release: Site
( to GST)
Arc: ; Azi(deg):
R(m): ; Drum No. 3[a] (cont)

| Time (GST) | Dosage (Part.) |
|---|---|
| 2114:52 | (12) |
| 16 | (11) |
| 18 | (20) |
| 20 | (9) |
| 22 | (12) |
| 2124:52 | (6) |
| 26 | (5) |
| 28 | (5) |
| 30 | (2) |
| 32 | (1) |
| 2134:52 | (6) |
| 36 | (10) |
| 38 | (4) |
| 40 | (16) |
| 42 | (9) |

Experiment No. 19
2 June 1964
Tracer Release: Site A
(1030 to 1130 GST)
Arc: 1 ; Azi(deg): 110.9
R(m): 740 ; Drum No. 9

| Time (GST) | Dosage (Part.) |
|---|---|
| 1034:22 | |
| 35 | 15 |
| 36 | 95 |
| 37 | 2290 |
| 38 | 10891 |
| 1039:22 | 13459 |
| 40 | 7662 |
| 41 | 814 |
| 42 | 730 |
| 43 | 1452 |
| 1044:22 | 14581 |
| 45 | 12848 |
| 46 | 7524 |
| 47 | 10754 |
| 48 | 20830 |
| 1049:22 | 16584 |
| 50 | 14768 |
| 51 | 15886 |
| 52 | 20989 |
| 53 | 11334 |
| 1054:22 | 2975 |
| 55 | 489 |
| 56 | 435 |
| 57 | 295 |
| 58 | 168 |
| 1059:22 | 136 |
| 1100 | 104 |
| 01 | 136 |
| 02 | 1405 |
| 03 | 6959 |

[a] Total dosage adjusted (Table IV); measured dosage considered to be primarily contamination; sequential patterns listed here in parentheses.

## Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

| Experiment No. 19 | | Experiment No. 19 | | Experiment No. 19 | | Experiment No. 19 | | Experiment No. 19 | | Experiment No. 19 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | | [illegible] | | [illegible] | | [illegible] | | [illegible] | | [illegible] | |
| Time (EDT) | Dosage (Part.) | Time (EDT) | Dosage (Part.) | Time (EDT) | Dosage (Part.) | Time (EDT) | Dosage (Part.) | Time (EDT) | Dosage (Part.) | Time (EDT) | Dosage (Part.) |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

[a] Ground contamination subtracted from each sequential dosage period; measured patterns listed in parentheses.

# Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 19
2 June 1958
Teapot Release (Site A
(1030 to 1130 EDT)
Arc: 3; Azi(deg): 116.7
R(m): 6410; Dose Br. 7

| Time (EDT) | Dosage (Pert.) |
|---|---|
| 1053:45 | |
| 55 | 19 |
| 57 | 68 |
| 59 | 90 |
| 1101 | 71 |
| 1103:45 | 38 |
| 05 | 74 |
| 07 | 144 |
| 09 | 110 |
| 11 | 95 |
| 1113:45 | 16 |
| 15 | 10 |
| 17 | 12 |
| 19 | 16 |
| 21 | 18 |
| 1123:45 | 10 |
| 25 | 30 |
| 27 | 8 |
| 29 | 0 |
| 31 | 2 |
| 1133:45 | 28 |
| 35 | 22 |
| 37 | 105 |
| 39 | 76 |
| 41 | 14 |
| 1143:45 | 2 |
| 45 | 10 |
| 47 | 56 |
| 49 | 30 |
| 51 | 14 |
| 1153: 45 | 4 |
| 55 | 2 |
| 57 | 2 |

Experiment No. 19
2 June 1958
Teapot Release (Site A
(1030 to 1130 EDT)
Arc: 3; Azi(deg): 108.9
R(m): 6071; Dose Br. 3

| Time (EDT) | Dosage (Pert.) |
|---|---|
| 1056:00 | |
| 58 | 32 |
| 1100 | 40 |
| 02 | 7 |
| 04 | 14 |
| 1106:00 | 1 |
| 08 | 11 |
| 10 | 32 |
| 12 | 14 |
| 14 | 2 |
| 1116:00 | 4 |
| 18 | 0 |
| 20 | 0 |
| 22 | 16 |
| 24 | 60 |
| 1126:00 | 36 |
| 28 | 16 |
| 30 | 10 |
| 32 | 42 |
| 34 | 73 |
| 1136:00 | 33 |
| 38 | 19 |
| 40 | 0 |

Experiment No. 19
2 June 1958
Teapot Release (Site A
(1030 to 1130 EDT)
Arc: 3; Azi(deg): 116.7
R(m): 6450; Dose Br. 2

| Time (EDT) | Dosage (Pert.) |
|---|---|
| 1118:40 | |
| 20 | 0 |
| 22 | 0 |
| 24 | 0 |
| 26 | 0 |
| 1128:40 | 19 |
| 40 | 9 |

Experiment No. 19
2 June 1958
Teapot Release (Site A
(1030 to 1130 EDT)
Arc: 3; Azi(deg): 125.3
R(m): 6280; Dose Br. 1

| Time (EDT) | Dosage (Pert.) |
|---|---|
| 1033:40 | |
| 37 | 0 ( 0) |
| 39 | 0 ( 0) |
| 41 | 0 ( 0) |
| 1043:40 | 0 ( 0) |
| 45 | 0 ( 0) |
| 47 | 0 ( 0) |
| 49 | 0 ( 0) |
| 1053:40 | 0 ( 0) |
| 55 | 0 ( 0) |
| 57 | 0 ( 0) |
| 59 | 0 ( 0) |
| 1103:40 | 0 ( 0) |
| 05 | 0 ( 0) |
| 07 | 0 ( 0) |
| 09 | 0 ( 0) |
| 11 | 0 ( 0) |
| 1113:40 | 0 ( 0) |
| 15 | 0 ( 0) |
| 17 | 0 ( 0) |
| 19 | 0 ( 0) |
| 21 | 0 ( 0) |
| 23 | 0 ( 0) |

Experiment No. 19
Teapot Release (Site
( to (EDT)
Arc: ; Azi(deg):
R(m): ; Dose Br. 0

| Time (EDT) | Dosage (Pert.) |
|---|---|
| 1125:40 | 0 ( 0) |
| 27 | 0 ( 0) |
| 29 | 0 ( 0) |
| 31 | 0 ( 0) |
| 1135:40 | 0 ( 0) |
| 37 | 0 ( 0) |
| 39 | 0 ( 0) |
| 41 | 0 ( 0) |
| 1145:40 | 0 ( 0) |
| 47 | 0 ( 0) |
| 49 | 0 ( 0) |
| 51 | 0 ( 0) |
| 1155:40 | 0 ( 0) |
| 57 | 0 ( 0) |
| 59 | 0 ( 0) |
| 1205:40 | 0 ( 0) |
| 07 | 0 ( 0) |
| 09 | 0 ( 0) |
| 11 | 0 ( 0) |
| 1215:40 | 0 ( 0) |
| 17 | 0 ( 0) |
| 19 | 0 ( 0) |
| 21 | 0 ( 0) |
| 1225:40 | 0 ( 0) |
| 27 | 0 ( 0) |
| 29 | 0 ( 0) |
| 31 | 0 ( 0) |
| 1235:40 | 0 ( 0) |
| 37 | 0 ( 0) |
| 39 | 0 ( 0) |
| 41 | 0 ( 0) |
| 1245:40 | 0 ( 0) |
| 47 | 0 ( 0) |
| 49 | 0 ( 0) |
| 51 | 0 ( 0) |
| 1255:40 | 0 ( 0) |
| 57 | 0 ( 0) |
| 59 | 0 ( 0) |
| 1305:40 | 0 ( 0) |
| 07 | 0 ( 0) |
| 09 | 0 ( 0) |
| 11 | 0 ( 0) |
| 1315:40 | 0 ( 0) |
| 17 | 0 ( 0) |
| 19 | 0 ( 0) |
| 21 | 0 ( 0) |
| 1325:40 | 0 ( 0) |
| 27 | 0 ( 0) |
| 29 | 0 ( 0) |
| 31 | 0 ( 0) |
| 1335:40 | 0 ( 0) |
| 37 | 0 ( 0) |
| 39 | 0 ( 0) |
| 41 | 0 ( 0) |
| 1345:40 | 0 ( 0) |
| 47 | 0 ( 0) |
| 49 | 0 ( 0) |
| 51 | 0 ( 0) |
| 1355:40 | 0 ( 0) |
| 57 | 0 ( 0) |
| 59 | 0 ( 0) |
| 1405:40 | 0 ( 0) |
| 07 | 0 ( 0) |
| 09 | 0 ( 0) |
| 11 | 0 ( 0) |
| 1415:40 | 0 ( 0) |
| 17 | 0 ( 0) |
| 19 | 0 ( 0) |
| 21 | 0 ( 0) |
| 1425:40 | 0 ( 0) |

Experiment No. 20
2 June 1958
Teapot Release (Site A
(1040 to 1140 EDT)
Arc: 1; Azi(deg): 95.4
R(m): 810 ; Dose Br. 8

| Time (EDT) | Dosage (Pert.) |
|---|---|
| 1135:40 | |
| 37 | 1 |
| 39 | 0 |
| 41 | 0 |
| 1145:40 | 0 |
| 47 | 0 |
| 49 | 0 |
| 51 | 0 |
| 1155:40 | 0 |
| 57 | 0 |
| 59 | 0 |
| 1205:40 | 0 |
| 07 | 0 |
| 09 | 0 |
| 11 | 0 |
| 1215:40 | 0 |
| 17 | 0 |
| 19 | 0 |
| 21 | 0 |
| 1225:40 | 0 |
| 27 | 0 |
| 29 | 0 |
| 31 | 0 |
| 1235:40 | 0 |
| 37 | 0 |
| 39 | 0 |
| 41 | 0 |
| 1245:40 | 0 |
| 47 | 0 |
| 49 | 0 |
| 51 | 0 |
| 1255:40 | 0 |
| 57 | 0 |
| 59 | 0 |
| 1305:40 | 0 |
| 07 | 0 |
| 09 | 0 |
| 11 | 0 |
| 1315:40 | 0 |
| 17 | 0 |
| 19 | 0 |
| 21 | 0 |
| 1325:40 | 0 |
| 27 | 0 |
| 29 | 0 |
| 31 | 0 |
| 1335:40 | 0 |
| 37 | 0 |
| 39 | 0 |
| 41 | 0 |
| 1345:40 | 0 |
| 47 | 0 |
| 49 | 0 |
| 51 | 0 |
| 1355:40 | 0 |
| 57 | 0 |
| 59 | 0 |
| 1405:40 | 0 |
| 07 | 0 |
| 09 | 0 |
| 11 | 0 |
| 1415:40 | 0 |
| 17 | 0 |
| 19 | 0 |
| 21 | 0 |
| 1425:40 | 0 |

[a] Percent contamination calculated from each sequential dosage pattern; measured patterns listed in parentheses.

# Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 20
3 June 1964
Tracer Release Site A
(1040 to 1140 CST)
Area 4; Azi(deg): 51.7
R(n): 810 ; Drum No. 4

| Time (CST) | Dosage (Part.) |
|---|---|
| 1102:12 | |
| 03 | 1093 |
| 04 | 13200 |
| 05 | 15970 |
| 06 | 14890 |
| 1107:12 | 8880 |
| 08 | 10970 |
| 09 | 990 |
| 10 | 648 |
| 11 | 330 |
| 1112:12 | 159 |
| 13 | 44 |
| 14 | 12 |
| 15 | 24 |
| 16 | 95 |
| 1117:12 | 6 |
| 18 | 18 |
| 19 | 9 |
| 20 | 21 |
| 21 | 1 |
| 1122:12 | 17 |
| 23 | 11 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |

Experiment No. 20
Tracer Release Site
( to CST)
Area ; Azi(deg):
R(n): ; Drum No.4(cont.)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1127:12 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 0 |
| 31 | 5 |
| 1132:12 | 8 |
| 33 | 59 |
| 34 | 451 |
| 35 | 245 |
| 36 | 549 |
| 1137:12 | 14160 |
| 38 | 11800 |
| 39 | 1725 |
| 40 | 1341 |
| 41 | 266 |
| 1142:12 | 19 |
| 43 | 7 |
| 44 | 5 |
| 45 | 4 |
| 46 | 14 |
| 1147:12 | 10 |

Experiment No. 20
3 June 1964
Tracer Release Site A
(1040 to 1140 CST)
Area 4; Azi(deg): 48.9
R(n): 897; Drum No. 9

| Time (CST) | Dosage (Part.) |
|---|---|
| 1100:35 | |
| 03 | 2816 |
| 04 | 7411 |
| 05 | 9754 |
| 06 | 10643 |
| 1107:35 | 8247 |
| 08 | 4458 |
| 09 | 1151 |
| 10 | 1811 |
| 11 | 690 |
| 1112:35 | 290 |
| 13 | 130 |
| 14 | 91 |
| 15 | 108 |
| 16 | 91 |
| 1117:35 | 231 |
| 18 | 1202 |
| 19 | 434 |
| 20 | 151 |
| 21 | 60 |
| 1122:35 | 0 |
| 23 | 0 |
| 24 | 0 |
| 25 | 0 |
| 26 | 0 |

Experiment No. 20
Tracer Release Site
( to CST)
Area ; Azi(deg):
R(n): ; Drum No.9(cont.)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1127:35 | 0 |
| 28 | 0 |
| 29 | 0 |
| 30 | 0 |
| 31 | 0 |
| 1132:35 | 0 |
| 33 | 0 |
| 34 | 121 |
| 35 | 184 |
| 36 | 110 |
| 1137:35 | 31 |
| 38 | 80 |
| 39 | 1435 |
| 40 | 3764 |
| 41 | 2119 |
| 1142:35 | 638 |
| 43 | 288 |
| 44 | 46 |
| 45 | 20 |

Experiment No. 20
3 June 1964
Tracer Release Site A
(1040 to 1140 CST)
Area 4; Azi(deg): 36.9
R(n): 1077; Drum No.10

| Time (CST) | Dosage (Part.) |
|---|---|
| 1007:54 | |
| 09 | (12) |
| 11 | (10) |
| 13 | ( 6) |
| 15 | ( 4) |
| 1012:54 | ( 6) |
| 19 | ( 7) |
| 21 | ( 7) |
| 23 | ( 1) |
| 25:54 | (13) |
| 1027:53 | ( 0) |
| 29 | ( 6) |
| 31 | ( 6) |
| 33 | ( 4) |
| 35 | (13) |
| 1032:53 | ( 9) |
| 39 | ( 4) |
| 41 | (11) |
| 43 | (11) |
| 45 | (14) |
| 1047:53 | (16) |
| 49 | (21) |
| 51 | ( 2) |
| 53 | (12) |
| 55 | ( 8) |
| 1057:53 | (15) |
| 59 | ( 5) |
| 1101 | (12) |
| 03 | (12) |
| 05 | (15) |

Experiment No. 20
Tracer Release Site
( to CST)
Area ; Azi(deg):
R(n): ; Drum No.10(cont.)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1107:53 | (22) |
| 09 | ( 0) |
| 11 | (18) |
| 13 | (18) |
| 15 | (18) |
| 1117:53 | (21) |
| 19 | (11) |
| 21 | (18) |
| 23 | (11) |
| 25 | (20) |
| 1127:53 | (14) |
| 29 | (18) |
| 31 | (25) |
| 33 | (19) |
| 35 | (19) |
| 1137:53 | (10) |
| 39 | (12) |
| 41 | (18) |
| 43 | (21) |
| 45 | (21) |
| 1147:53 | (28) |
| 49 | (21) |
| 51 | (14) |
| 53 | (25) |
| 55:53 | (20) |
| 1157:52 | (19) |
| 59 | (27) |

[a] Sequential dosage patterns listed in parentheses; entire measured dosage considered to be contamination.

## Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 20
3 June 1964
Tracer Release:Site A
(1040 to 1140 CST)
Arc: 2; Azi(deg): 48.7
R(m): 3470; Drum No. 5

| Time (CST) | Dosage (Part.) |
|---|---|
| 1139:46 | |
| 41 | 16 |
| 43 | 66 |
| 45 | 11 |
| 47 | 4 |

Experiment No. 20
3 June 1964
Tracer Release:Site A
(1040 to 1140 CST)
Arc: 2; Azi(deg): 65.4
R(m): 3470; Drum No. 1

| Time (CST) | Dosage (Part.) |
|---|---|
| 1138:30 | |
| 40 | 49 |
| 42 | 56 |
| 44 | 56 |
| 46 | 49 |
| 1148:30 | 27 |
| 50 | 23 |
| 52 | 9 |
| 54 | 3 |

Experiment No. 20
3 June 1964
Tracer Release:Site A
(1040 to 1140 CST)
Arc: 3; Azi(deg): 64.3
R(m): 7410; Drum No. 2

| Time (CST) | Dosage (Part.) |
|---|---|
| 1132:45 | |
| 34 | 34 |
| 36 | 64 |
| 38 | 88 |
| 40 | 38 |
| 1142:45 | 105 |
| 44 | 48 |
| 46 | 16 |
| 48 | 17 |
| 50 | 37 |
| 1152:45 | 127 |
| 54 | 152 |
| 56 | 180 |
| 58 | 133 |
| 1200 | 120 |
| 1202:45 | 54 |
| 04 | 66 |
| 06 | 12 |
| 08 | 7 |
| 10 | 7 |

Experiment No. 21
4 June 1964
Tracer Release:Site B
(1030 to 1130 CST)
Arc: 4; Azi(deg): 4.7
R(m): 2020; Drum No. 9[b]

| Time (CST) | Dosage (Part.) |
|---|---|
| 1017:05 | |
| 18 | 0 (37) |
| 19 | 0 (553) |
| 20 | 0 (29) |
| 21 | 0 ( 8) |
| 1022:05 | 0 ( 4) |
| 23 | 0 (21) |
| 24 | 0 (16) |
| 25 | 0 (16) |
| 26 | 0 (14) |
| 1027:05 | 0 (10) |
| 28 | 0 (13) |
| 29 | 0 (11) |
| 30 | 0 (11) |
| 31 | 0 ( 9) |
| 1032:05 | 0 (17) |
| 33 | 0 (10) |
| 34 | 0 (13) |
| 35 | 0 (11) |
| 36 | 0 (14) |
| 1037:05 | 0 ( 8) |
| 38 | 0 (20) |
| 39 | 0 (22) |
| 40 | 0 (11) |
| 41 | 10 (24) |

Experiment No. 21

Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 9[b] (cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1042:05 | 101(115) |
| 43 | 92(66) |
| 44 | 50(64) |
| 45 | 25(39) |
| 46 | 10(24) |
| 1047:05 | 0 (13) |
| 48 | 0 (18) |
| 49 | 0 (20) |
| 50 | 0 (15) |
| 51 | 0 (11) |
| 1052:05 | 0 ( 6) |
| 53 | 0 (13) |
| 54 | 0 (14) |
| 55 | 0 (12) |
| 56 | 0 (15) |
| 1057:05 | 0 (13) |
| 58 | 0 (16) |
| 59 | 0 (13) |
| 1100 | 0 ( 8) |
| 01 | 0 ( 5) |
| 1102:05 | 0 (11) |
| 03 | 0 ( 8) |
| 04 | 0 (12) |
| 05 | 0 ( 7) |
| 06 | 0 (15) |

Experiment No. 21

Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 9[b] (cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1107:05 | 0 ( 8) |
| 08 | 0 ( 7) |
| 09 | 0 (15) |
| 10 | 0 (36) |
| 11 | 0 (26) |
| 1112:05 | 0 (18) |
| 13 | 0 (16) |
| 14 | 0 (22) |
| 15 | 0 (12) |
| 16 | 0 (17) |
| 1117:05 | 0 (20) |
| 18 | 0 (21) |
| 19 | 0 (33) |
| 20 | 0 ( 9) |
| 21 | 0 (12) |
| 1122:05 | 0 (22) |
| 23 | 0 (17) |
| 24 | 0 (16) |
| 25 | 0 (23) |
| 26 | 0 (12) |
| 1127:05 | 0 (15) |
| 28 | 0 (10) |
| 29 | 0 (10) |
| 30 | 0 ( 6) |
| 31 | 0 ( 9) |

[b] Assumed contamination subtracted from each sequential dosage pattern; measured patterns listed in parentheses.

## Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 21
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.9[b](cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1132:05 | 0 ( 5) |
| 33 | 0 (10) |
| 34 | 0 (17) |
| 35 | 0 ( 9) |
| 36 | 0 (27) |
| 1137:05 | 0 (10) |
| 38 | 0 (21) |
| 39 | 0 (10) |
| 40 | 0 ( 4) |
| 41 | 0 (12) |
| 1142:05 | 0 (10) |
| 43 | 0 (17) |
| 44 | 0 (15) |
| 45 | 0 (11) |
| 46 | 0 (12) |
| 1147:05 | 0 (17) |
| 48 | 0 (11) |
| 49 | 0 (21) |
| 50 | 0 ( 7) |
| 51 | 0 (15) |
| 1152:05 | 0 (18) |
| 53 | 0 (23) |
| 54 | 0 (28) |
| 55 | 0 (15) |
| 56 | 0 (13) |
| 1157:05 | 0 (14) |
| 58 | 0 (16) |
| 59 | 0 ( 6) |
| 1200:03 | 0 ( 2) |
| 01:03 | 0 ( 2) |

Experiment No. 21
4 June 1964
Tracer Release:Site B
(1030 to 1130 CST)
Arc: 6; Azi(deg): 341.5
R(m): 7920; Drum No. 10

| Time (CST) | Dosage (Part.) |
|---|---|
| 1112:10 | |
| 14 | 12 |
| 16 | 13 |
| 18 | 49 |
| 20 | 472 |
| 1122:10 | 519 |
| 24 | 388 |
| 26 | 49 |
| 28 | 27 |
| 30 | 5 |
| 1132:10 | 2 |
| 34 | 8 |
| 36 | 6 |
| 38 | 14 |
| 40 | 6 |
| 1142:10 | 3 |
| 44 | 28 |
| 46 | 72 |
| 48 | 106 |
| 50 | 12 |
| 1152:10 | 9 |
| 54 | 9 |
| 56 | 0 |
| 58 | 10 |
| 1200 | 13 |

Experiment No. 21
4 June 1964
Tracer Release:Site B
(1030 to 1130 CST)
Arc: 7; Azi(deg): 342.0
R(m):18010; Drum No. 7

| Time (CST) | Dosage (Part.) |
|---|---|
| 1140:10 | |
| 42 | 8 |
| 44 | 8 |
| 46 | 2 |
| 48 | 8 |
| 1150:10 | 12 |
| 52 | 8 |
| 54 | 18 |
| 56 | 16 |
| 58 | 18 |
| 1200:10 | 32 |
| 02 | 8 |
| 04 | 28 |
| 06 | 26 |
| 08 | 46 |
| 1210:10 | 52 |
| 12 | 32 |
| 14 | 40 |
| 16 | 28 |
| 18 | 28 |
| 1220:10 | 42 |
| 22 | 48 |
| 24 | 44 |
| 26 | 52 |
| 28 | 54 |
| 1230:10 | 48 |
| 32 | 78 |
| 34 | 56 |
| 36 | 80 |
| 38 | 56 |
| 1240:10 | 30 |
| 42 | 36 |

Experiment No. 22
6 June 1964
Tracer Release:Site A
(1130 to 1230 CST)
Arc:1 ; Azi(deg): 29.6
R(m): 930; Drum No. 4

| Time (CST) | Dosage (Part.) |
|---|---|
| 1134:20 | |
| 35 | 197 |
| 36 | 192 |
| 37 | 4000 |
| 38 | 2380 |
| 1139:20 | 2260 |
| 40 | 1390 |
| 41 | 4040 |
| 42 | 6680 |
| 43 | 9160 |
| 1144:20 | 20420 |
| 45 | 11880 |
| 46 | 5520 |
| 47 | 1884 |
| 48 | 2030 |
| 1149:20 | 1061 |
| 50 | 192 |
| 51 | 68 |
| 52 | 61 |
| 53 | 77 |
| 1154:20 | 25 |
| 55 | 32 |
| 56 | 35 |
| 57 | 17 |
| 58 | 9 |
| 1159:20 | 6 |
| 1200 | 9 |
| 01 | 3 |
| 02 | 248 |
| 03 | 4160 |

Experiment No. 22
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.4(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1204:20 | 2720 |
| 05 | 806 |
| 06 | 1007 |
| 07 | 312 |
| 08 | 219 |
| 1209:20 | 116 |
| 10 | 14 |
| 11 | 5 |
| 12 | 15 |
| 13 | 5 |
| 1214:20 | 25 |
| 15 | 26 |
| 16 | 24 |
| 17 | 67 |
| 18 | 21 |
| 1219:20 | 24 |
| 20 | 48 |
| 21 | 24 |
| 22 | 8 |
| 23 | 12 |
| 1224:20 | 16 |

Experiment No. 22
6 June 1964
Tracer Release:Site A
(1130 to 1230 CST)
Arc: 3; Azi(deg): 8.3
R(m): 7430; Drum No. 8

| Time (CST) | Dosage (Part.) |
|---|---|
| 1155:30 | |
| 57 | 14 |
| 59 | 16 |
| 1201 | 60 |
| 03 | 182 |
| 1205:30 | 67 |
| 07 | 11 |
| 09 | 81 |
| 11 | 4 |
| 13 | 129 |
| 1215:30 | 257 |
| 17 | 355 |
| 19 | 980 |
| 21 | 304 |
| 23 | 304 |
| 1225:30 | 456 |
| 27 | 324 |
| 29 | 88 |
| 31 | 256 |
| 33 | 456 |
| 1235:30 | 553 |
| 37 | 488 |
| 39 | 47 |
| 41 | 52 |
| 43 | 23 |
| 1245:30 | 321 |
| 47 | 338 |
| 49 | 157 |
| 51 | 71 |
| 53 | 83 |
| 1255:30 | 70 |
| 57 | 68 |
| 59 | 46 |
| 1301 | 24 |
| 03 | 10 |

[b] Assumed contamination subtracted from each sequential dosage pattern; measured patterns listed in parentheses.

## Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 22
6 June 1964
Tracer Release:Site A
(1130 to 1230 CST)
Arc: 3; Azi(deg): 19.6
R(m): 6980; Drum No. 3

| Time (CST) | Dosage (Part.) |
|---|---|
| 1154:00 | |
| 56 | 3 |
| 58 | 6 |
| 1200 | 9 |
| 02 | 29 |
| 1204:00 | 9 |
| 06 | 9 |
| 08 | 37 |
| 10 | 96 |
| 12 | 124 |
| 1214:00 | 138 |
| 16 | 121 |
| 18 | 173 |
| 20 | 136 |
| 22 | 29 |
| 1224:00 | 12 |
| 26 | 2 |
| 28 | 9 |
| 30 | 157 |
| 32 | 452 |
| 1234:00 | 436 |
| 36 | 259 |
| 38 | 116 |
| 40 | 23 |
| 42 | 25 |
| 1244:00 | 24 |
| 46 | 28 |
| 48 | 32 |
| 50 | 36 |
| 52 | 30 |
| 1254:00 | 52 |
| 56 | 46 |
| 58 | 10 |
| 1300 | 4 |

Experiment No. 22
6 June 1964
Tracer Release:Site A
(1130 to 1230 CST)
Arc: 3; Azi(deg): 30.1
R(m): 6920; Drum No. 2

| Time (CST) | Dosage (Part.) |
|---|---|
| 1152:10 | |
| 54 | 15 |
| 56 | 35 |
| 58 | 13 |
| 1200 | 0 |
| 1202:10 | 0 |
| 04 | 0 |
| 06 | 0 |
| 08 | 0 |
| 10 | 6 |
| 1212:10 | 13 |
| 14 | 11 |
| 16 | 14 |
| 18 | 83 |
| 20 | 35 |
| 1222:10 | 10 |
| 24 | 6 |
| 26 | 2 |
| 28 | 0 |
| 30 | 24 |
| 1232:10 | 14 |
| 34 | 3 |
| 36 | 0 |
| 38 | 0 |
| 40 | 0 |
| 1242:10 | 32 |
| 44 | 137 |
| 46 | 99 |
| 48 | 50 |
| 50 | 12 |
| 1252:10 | 11 |
| 54 | 7 |

Experiment No. 22
6 June 1964
Tracer Release:Site A
(1130 to 1230 CST)
Arc: 3; Azi(deg): 41.6
R(m): 7610; Drum No. 7

| Time (CST) | Dosage (Part.) |
|---|---|
| 1239:20 | |
| 41 | 38 |
| 43 | 33 |
| 45 | 22 |

Experiment No. 23
7 June 1964
Tracer Release:Site A
(1132 to 1232 CST)
Arc: 1; Azi(deg): 29.6
R(m): 930 ; Drum No. 4

| Time (CST) | Dosage (Part.) |
|---|---|
| 1150:13 | |
| 51 | 94 |
| 52 | 147 |
| 53 | 988 |
| 54 | 548 |
| 1155:13 | 958 |
| 56 | 1230 |
| 57 | 391 |
| 58 | 127 |
| 59 | 15 |
| 1200:13 | 10 |
| 01 | 114 |
| 02 | 99 |
| 03 | 37 |
| 04 | 0 |
| 1205:13 | 0 |
| 06 | 0 |
| 07 | 0 |
| 08 | 0 |
| 09 | 0 |
| 1210:13 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 1215:13 | |

Experiment No. 23
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.4(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1215:13 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 19 |
| 1220:13 | 125 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |
| 24 | 0 |
| 1225:13 | 0 |
| 26 | 0 |
| 27 | 0 |
| 28 | 0 |
| 29 | 0 |
| 1230:13 | 0 |
| 31 | 0 |
| 32 | 0 |
| 33 | 132 |
| 34 | 57 |
| 1235:13 | 25 |
| 36 | 49 |
| 37 | 15 |
| 38 | 14 |
| 39 | 8 |

Experiment No. 23
7 June 1964
Tracer Release:Site A
(1132 to 1232 CST)
Arc: 1; Azi(deg): 60.9
R(m): 790; Drum No. 9

| Time (CST) | Dosage (Part.) |
|---|---|
| 1133:10 | |
| 35 | 1170 |
| 36 | 7188 |
| 37 | 2780 |
| 38 | 34 |
| 1139:10 | 8469 |
| 40 | 6631 |
| 41 | 17385 |
| 42 | 12091 |
| 43 | 2048 |
| 1144:10 | 63 |
| 45 | 6464 |
| 46 | 5516 |
| 47 | 5851 |
| 48 | 10921 |
| 1149:10 | 7578 |
| 50 | 8414 |
| 51 | 14320 |
| 52 | 4863 |
| 53 | 239 |
| 1154:10 | 94 |
| 55 | 11 |
| 56 | 10 |
| 57 | 7 |
| 58 | 11 |
| 1159:10 | 5 |
| 1200 | 3 |
| 01 | 10 |
| 02 | 662 |
| 03 | 8358 |
| 1204:10 | 6352 |
| 05 | 1773 |
| 06 | 1746 |
| 07 | 546 |
| 08 | 1221 |

# Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 22

Tracer Release: Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 9(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1209:10 | 13261 |
| 10 | 10810 |
| 11 | 247 |
| 12 | 222 |
| 13 | 1761 |
| 1214:10 | 8476 |
| 15 | 805 |
| 16 | 38 |
| 17 | 17385 |
| 18 | 25575 |
| 1219:10 | 21,731 |
| 20 | 24350 |
| 21 | 18053 |
| 22 | 9361 |
| 23 | 14599 |
| 1224:10 | 12760 |
| 25 | 5962 |
| 26 | 11924 |
| 27 | 17663 |
| 28 | 12648 |
| 1229:10 | 18220 |
| 30 | 11590 |
| 31 | 14487 |
| 32 | 11645 |
| 33 | 10865 |
| 1234:10 | 16716 |
| 35 | 3900 |
| 36 | 893 |
| 37 | 42 |
| 38 | 48 |

Experiment No. 23
7 June 1964
Tracer Release: Site A
( to CST)
Arc: 4; Azi(deg): 48.7
R(m): 3477; Drum No. 5

| Time (CST) | Dosage (Part.) |
|---|---|
| 1155:30 | |
| 1157 | 127 |
| 59 | 259 |
| 1201 | 103 |
| 03 | 40 |
| 1205:30 | 33 |
| 07 | 182 |
| 09 | 79 |
| 11 | 16 |
| 13 | 5 |
| 1215:30 | 5 |
| 17 | 2 |
| 19 | 3 |
| 21 | 8 |
| 23 | 0 |
| 1225:30 | 2 |
| 27 | 0 |
| 29 | 0 |
| 31 | 0 |
| 33 | 18 |
| 1235:30 | 142 |
| 37 | 331 |
| 39 | 855 |
| 42 | 1493 |
| 43 | 603 |
| 1245:30 | 214 |
| 47 | 192 |
| 49 | 156 |
| 51 | 44 |
| 53 | 33 |
| 1255:30 | 14 |

Experiment No. 24
9 June 1964
Tracer Release: Site A
(1030 to 1130 CST)
Arc: 1; Azi(deg): 29.6
R(m): 930; Drum No. 9

| Time (CST) | Dosage (Part.) |
|---|---|
| 1031:36 | |
| 32:36 | 3705 |
| 33 | 7466 |
| 34 | 5405 |
| 35 | 1185 |
| 1036:36 | 459 |
| 37 | 352 |
| 38 | 4566 |
| 39 | 8135 |
| 40 | 7021 |
| 1041:36 | 2766 |
| 42 | 6268 |
| 43 | 18525 |
| 44 | 20020 |
| 45 | 12155 |
| 1046:36 | 3733 |
| 47 | 958 |
| 48 | 486 |
| 49 | 388 |
| 50 | 2062 |
| 1051:36 | 17680 |
| 52 | 13780 |
| 53 | 11570 |
| 54 | 20280 |
| 55 | 9277 |
| 1056:36 | 4475 |
| 57 | 2019 |
| 58 | 7049 |
| 59 | 5266 |
| 1100 | 2232 |

Experiment No. 24

Tracer Release: Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 9(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1101:36 | 5628 |
| 02 | 10615 |
| 03 | 5349 |
| 04 | 1115 |
| 05 | 1264 |
| 1106:36 | 2193 |
| 07 | 5906 |
| 08 | 5739 |
| 09 | 898 |
| 10 | 2702 |
| 1111:36 | 2236 |
| 12 | 5014 |
| 13 | 4848 |
| 14 | 9082 |
| 15 | 20995 |
| 1116:36 | 18980 |
| 17 | 16445 |
| 18 | 17420 |
| 19 | 16380 |
| 20 | 9360 |
| 1121:36 | 11701 |
| 22 | 14654 |
| 23 | 14932 |
| 24 | 9528 |
| 25 | 2842 |
| 1126:36 | 859 |
| 27 | 710 |
| 28 | 293 |
| 29 | 810 |
| 30 | 2016 |

Experiment No. 24

Tracer Release: Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 9(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1131:36 | 1122 |
| 32 | 320 |
| 33 | 36 |
| 34 | 18 |
| 35 | 54 |
| 1136:36 | 44 |
| 37 | 32 |
| 38 | 43 |
| 39 | 33 |
| 40 | 24 |
| 1141:36 | 35 |
| 42 | 27 |
| 43 | 25 |
| 44 | 66 |
| 45 | 105 |
| 1146:36 | 50 |
| 47 | 43 |
| 48 | 17 |
| 49 | 32 |
| 50 | 21 |
| 1151:36 | 27 |
| 52 | 33 |
| 53 | 26 |
| 54 | 21 |
| 55 | 17 |
| 1156:36 | 24 |

Experiment No. 24
9 June 1964
Tracer Release: Site A
(1030 to 1130 CST)
Arc: 1; Azi(deg): 35.4
R(m): 910 ; Drum No. 4

| Time (CST) | Dosage (Part.) |
|---|---|
| 1031:35 | |
| 32 | 223 |
| 33 | 775 |
| 34 | 297 |
| 35 | 714 |
| 1036:35 | 786 |
| 37 | 247 |
| 38 | 752 |
| 39 | 5240 |
| 40 | 3580 |
| 1041:35 | 6980 |
| 42 | 2940 |
| 43 | 5000 |
| 44 | 9420 |
| 45 | 14720 |
| 1046:35 | 6780 |
| 47 | 2862 |
| 48 | 1482 |
| 49 | 564 |
| 50 | 756 |
| 1051:35 | 744 |
| 52 | 3033 |
| 53 | 3920 |
| 54 | 9280 |
| 55 | 6600 |
| 1056:35 | 2396 |
| 57 | 1093 |
| 58 | 2406 |
| 59 | 4933 |
| 1100 | 3040 |

# Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 24
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.4(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1101:35 | 1715 |
| 02 | 12600 |
| 03 | 8517 |
| 04 | 3722 |
| 05 | 1639 |
| 1106:35 | 2532 |
| 07 | 3758 |
| 08 | 2354 |
| 09 | 1227 |
| 10 | 1430 |
| 1111:35 | 663 |
| 12 | 1754 |
| 13 | 1185 |
| 14 | 6280 |
| 15 | 8880 |
| 1116:35 | 8800 |
| 17 | 8480 |
| 18 | 6680 |
| 19 | 8280 |
| 20 | 5520 |
| 1121:35 | 8160 |
| 22 | 8760 |
| 23 | 9560 |
| 24 | 6880 |
| 25 | 4640 |
| 1126:35 | 489 |
| 27 | 74 |
| 28 | 323 |
| 29 | 403 |
| 30 | 678 |

Experiment No.24
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.4(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1131:35 | 440 |
| 32 | 259 |
| 33 | 166 |
| 34 | 58 |
| 35 | 36 |
| 1136:35 | 20 |
| 37 | 15 |
| 38 | 13 |
| 39 | 14 |
| 40 | 26 |
| 1141:35 | 17 |
| 42 | 16 |
| 43 | 16 |
| 44 | 14 |
| 45 | 18 |
| 1146:35 | 11 |
| 47 | 19 |
| 48 | 4 |
| 49 | 4 |
| 50 | 19 |

Experiment No. 24
9 June 1964
Tracer Release:Site A
(1030 to 1130 CST)
Arc: 2; Azi(deg): 31.6
R(m): 3480; Drum No. 10

| Time (CST) | Dosage (Part.) |
|---|---|
| 1028:22 | |
| 30 | 11 |
| 32 | 12 |
| 34 | 9 |
| 36 | 18 |
| 1038:22 | 17 |
| 40 | 17 |
| 42 | 47 |
| 44 | 441 |
| 46 | 1056 |
| 1048:22 | 1059 |
| 50 | 1445 |
| 52 | 888 |
| 54 | 332 |
| 56 | 47 |
| 1058:22 | 85 |
| 1100 | 801 |
| 02 | 1549 |
| 04 | 622 |
| 06 | 1076 |
| 1108:22 | 648 |
| 10 | 355 |
| 12 | 371 |
| 14 | 74 |
| 16 | 88 |

Experiment No. 24
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.10(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1118:22 | 515 |
| 20 | 1820 |
| 22 | 2620 |
| 24 | 2488 |
| 26 | 1790 |
| 1128:22 | 1442 |
| 30 | 588 |
| 32 | 158 |
| 34 | 76 |
| 36 | 174 |
| 1138:22 | 110 |
| 40 | 94 |
| 42 | 43 |
| 44 | 18 |
| 46 | 22 |
| 1148:22 | 21 |
| 50 | 17 |
| 52 | 10 |
| 54 | 10 |
| 56 | 6 |

Experiment No. 24
9 June 1964
Tracer Release:Site A
(1030 to 1130 CST)
Arc: 2; Azi(deg): 36.9
R(m): 3270; Drum No. 1

| Time (CST) | Dosage (Part.) |
|---|---|
| 1038:08 | |
| 40 | 19 |
| 42 | 84 |
| 44 | 144 |
| 46 | 483 |
| 1048:08 | 393 |
| 50 | 132 |
| 52 | 21 |
| 54 | 6 |
| 56 | 10 |
| 1058:08 | 134 |
| 1100 | 216 |
| 02 | 60 |
| 04 | 19 |
| 06 | 37 |
| 1108:08 | 12 |
| 10 | 1 |
| 12 | 3 |
| 14 | 2 |
| 16 | 3 |
| 1118:08 | 2 |
| 20 | 227 |
| 22 | 825 |
| 24 | 1279 |
| 26 | 340 |
| 1128:08 | 20 |

Experiment No. 24
9 June 1964
Tracer Release:Site A
(1030 to 1130 CST)
Arc: 3; Azi(deg): 19.6
R(m): 6980; Drum No. 8[1]

| Time (CST) | Dosage (Part.) |
|---|---|
| 1040:25 | |
| 42 | 66 (70) |
| 44 | 68 (72) |
| 46 | 45 (49) |
| 48 | 0 ( 4) |
| 1050:25 | 0 ( 3) |
| 52 | 0 ( 7) |
| 54 | 0 ( 7) |
| 56 | 0 (16) |
| 58 | 0 ( 4) |
| 1100:25 | 0 ( 4) |
| 02 | 0 ( 5) |
| 04 | 0 ( 5) |
| 06 | 0 ( 4) |
| 08 | 0 ( 4) |
| 1110:25 | 0 ( 1) |
| 12 | 0 ( 5) |
| 14 | 0 ( 5) |
| 16 | 0 ( 2) |
| 18 | 0 ( 6) |
| 1120:25 | 0 ( 5) |
| 22 | 0 ( 4) |
| 24 | 0 ( 7) |
| 26 | 0 ( 3) |
| 28 | 0 ( 3) |

[1] Assumed contamination subtracted from each sequential dosage pattern; measured patterns listed in parentheses.

# Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 24

Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 8[1] (con't)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1130:25 | 0 (18) |
| 32 | 0 ( 6) |
| 34 | 0 ( 4) |
| 36 | 0 ( 3) |
| 38 | 0 ( 3) |
| 1140:25 | 0 ( 2) |
| 42 | 0 ( 3) |
| 44 | 0 ( 3) |
| 46 | 0 ( 3) |
| 48 | 0 ( 1) |
| 1150:25 | 0 ( 2) |
| 52 | 0 ( 1) |
| 54 | 0 ( 2) |
| 56 | 0 ( 2) |
| 58 | 0 ( 0) |
| 1200:25 | 0 ( 2) |
| 02 | 0 ( 4) |
| 04 | 0 ( 5) |
| 06 | 0 ( 3) |
| 08 | 0 ( 7) |
| 1210:25 | 0 ( 2) |
| 12 | 0 ( 4) |
| 14 | 0 (10) |
| 16 | 0 ( 2) |

Experiment No. 24
9 June 1964
Tracer Release:Site A
(1030 to 1130 CST)
Arc: 3; Azi(deg): 32.5
R(m): 7710; Drum No. 3

| Time (CST) | Dosage (Part.) |
|---|---|
| 1046:00 | |
| 48 | 6 |
| 50 | 23 |
| 52 | 34 |
| 54 | 64 |
| 1056:00 | 94 |
| 58 | 61 |
| 1100 | 23 |
| 02 | 6 |
| 04 | 5 |
| 1106:00 | 77 |
| 08 | 153 |
| 10 | 148 |
| 12 | 88 |
| 14 | 39 |
| 1116:00 | 16 |
| 18 | 12 |
| 20 | 2 |
| 22 | 12 |
| 24 | 29 |
| 1126:00 | 26 |
| 28 | 42 |
| 30 | 89 |
| 32 | 106 |
| 34 | 153 |
| 1136:00 | 34 |
| 38 | 7 |

Experiment No. 25
10 June 1964
Tracer Release:Site A
(1033 to 1133 CST)
Arc: 1; Azi(deg): 154.5
R(m): 600 ; Drum No. 9[2]

| Time (CST) | Dosage (Part.) |
|---|---|
| 1018:44 | |
| 18:56 | 0 ( 77) |
| 19 | 0 (196) |
| 20 | 0 ( 28) |
| 21 | 0 ( 32) |
| 1022:56 | 0 ( 20) |
| 23 | 0 ( 24) |
| 24 | 0 ( 15) |
| 25 | 0 ( 11) |
| 26 | 0 ( 14) |
| 1027:56 | 0 ( 16) |
| 28 | 0 ( 35) |
| 29 | 0 ( 20) |
| 30 | 0 ( 18) |
| 31 | 0 ( 21) |
| 1032:56 | 0 ( 12) |
| 33 | 0 ( 12) |
| 34 | 0 ( 28) |
| 35 | 0 ( 25) |
| 36 | 0 ( 40) |
| 1037:56 | 0 ( 10) |
| 38 | 0 ( 24) |
| 39 | 581 ( 599) |
| 40 | 1787 (1805) |
| 41 | 2749 (2767) |

Experiment No. 25

Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 9[2] (cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1042:56 | 1216 (1234) |
| 43 | 202 ( 220) |
| 44 | 330 ( 347) |
| 45 | 192 ( 209) |
| 46 | 73 ( 90) |
| 1047:56 | 28 ( 45) |
| 48 | 31 ( 48) |
| 49 | 0 ( 12) |
| 50 | 0 ( 8) |
| 51 | 0 ( 13) |
| 1052:56 | 0 ( 12) |
| 53 | 0 ( 10) |
| 54 | 0 ( 7) |
| 55 | 0 ( 16) |
| 56 | 0 ( 15) |
| 1057:56 | 0 ( 7) |
| 58 | 0 ( 7) |
| 59 | 0 ( 10) |
| 1100 | 0 ( 8) |
| 01 | 0 ( 12) |
| 1102:56 | 0 ( 7) |
| 03 | 0 ( 12) |
| 04 | 0 ( 8) |
| 05 | 0 ( 5) |
| 06 | 0 ( 9) |

Experiment No. 25

Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 9[2] (cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1107:56 | 58 ( 72) |
| 08 | 0 ( 17) |
| 09 | 0 ( 8) |
| 10 | 73 ( 86) |
| 11 | 10 ( 23) |
| 1112:56 | 85 ( 98) |
| 13 | 0 ( 17) |
| 14 | 0 ( 16) |
| 15 | 0 ( 15) |
| 16 | 0 ( 9) |
| 1117:56 | 0 ( 11) |
| 18 | 0 ( 16) |
| 19 | 0 ( 11) |
| 20 | 0 ( 12) |
| 21 | 0 ( 12) |
| 1122:56 | 0 ( 11) |
| 23 | 0 ( 6) |
| 24 | 0 ( 14) |
| 25 | 0 ( 14) |
| 26 | 0 ( 18) |
| 1127:56 | 0 ( 10) |
| 28 | 8 ( 19) |
| 29 | 64 ( 72) |
| 30 | 43 ( 54) |
| 31 | 32 ( 42) |

Experiment No. 25

Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 9[2] (cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1132:56 | 24 ( 35) |
| 33 | 22 ( 33) |
| 34 | 1077 (1088) |
| 35 | 620 ( 630) |
| 36 | 228 ( 238) |
| 1137:56 | 92 ( 102) |
| 38 | 64 ( 74) |
| 39 | 31 ( 41) |
| 40 | 42 ( 52) |
| 41 | 0 ( 12) |
| [illegible] | 0 ( 7) |
| [illegible] | 0 ( 21) |
| [illegible] | 0 ( 44) |
| [illegible] | 0 ( 9) |
| [illegible] | 0 ( 6) |
| [illegible] | 0 ( 5) |
| [illegible] | 0 ( 16) |
| 1152:56 | 0 ( 12) |
| 53 | 0 ( 9) |
| 54:56 | 0 ( 14) |
| 55:59 | 0 ( 8) |

[1] Assumed contamination subtracted from each sequential dosage pattern; measured pattern listed in parentheses.

[2] Assumed contamination subtracted from each sequential dosage pattern; measured patterns listed in parentheses.

# Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 25
10 June 1964
Tracer Release:Site A
(1033 to 1133 CST)
Arc: 2; Azi(deg): 138.7
R(m): 3320 ; Drum No. 10

| Time (CST) | Dosage (Part.) |
|---|---|
| 1050:11 | |
| 52 | 54 |
| 54 | 778 |
| 56 | 548 |
| 58 | 396 |
| 1100:11 | 702 |
| 02 | 959 |
| 04 | 309 |
| 06 | 246 |
| 08 | 156 |
| 1110:11 | 105 |
| 12 | 68 |
| 14 | 43 |
| 16 | 28 |
| 18 | 54 |
| 1120:11 | 46 |
| 22 | 17 |
| 24 | 5 |
| 26 | 6 |
| 28 | 9 |

Experiment No. 25

Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.10 (Con't)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1130:11 | 34 |
| 32 | 25 |
| 34 | 14 |
| 36 | 20 |
| 38 | 112 |
| 1140:11 | 140 |
| 42 | 256 |
| 44 | 484 |
| 46 | 273 |
| 48 | 125 |
| 1150:11 | 136 |
| 52 | 348 |
| 54 | 643 |
| 56 | 498 |
| 58 | 319 |
| 1200:11 | 237 |
| 02 | 186 |
| 04 | 61 |
| 06 | 17 |
| 08 | 7 |

Experiment No. 25
10 June 1964
Tracer Release:Site A
(1033 to 1133 CST)
Arc: 3; Azi(deg): 136.7
R(m): 6250; Drum No. 2

| Time (CST) | Dosage (Part.) |
|---|---|
| 1105:25 | |
| 07 | 4 |
| 09 | 21 |
| 11 | 58 |
| 13 | 293 |
| 1115:25 | 290 |
| 17 | 267 |
| 19 | 251 |
| 21 | 190 |
| 23 | 64 |
| 1125:25 | 123 |
| 27 | 118 |
| 29 | 109 |
| 31 | 77 |
| 33 | 25 |
| 1135:25 | 12 |
| 37 | 29 |
| 39 | 14 |
| 41 | 3 |
| 43 | 3 |
| 1145:25 | 3 |
| 47 | 2 |
| 49 | 1 |
| 51 | 7 |
| 53 | 17 |

Experiment No. 25

Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.10(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1155:25 | 12 |
| 57 | 27 |
| 59 | 36 |
| 1201 | 24 |
| 03 | 29 |
| 1205:25 | 76 |
| 07 | 69 |
| 09 | 63 |
| 11 | 86 |
| 13 | 171 |
| 1215:25 | 175 |
| 17 | 112 |
| 19 | 42 |
| 21 | 6 |
| 23 | 3 |
| 1225:25 | 7 |
| 27 | 4 |
| 29 | 1 |
| 31 | 7 |

Experiment No. 26
11 June 1964
Tracer Release:Site B
(1035 to 1135 CST)
Arc: 4; Azi(deg): 293.9
R(m): 2000; Drum No. 9

| Time (CST) | Dosage (Part.) |
|---|---|
| 1111:48 | |
| 12 | 66 |
| 13 | 195 |
| 14 | 435 |
| 15 | 482 |
| 1116:48 | 1264 |
| 17 | 1122 |
| 18 | 1122 |
| 19 | 781 |
| 20 | 58 |
| 1121:48 | 23 |
| 22 | 4 |
| 23 | 4 |
| 24 | 9 |
| 25 | 2 |
| 1126:48 | 6 |
| 27 | 5 |
| 28 | 16 |
| 29 | 4 |

Experiment No. 26
11 June 1964
Tracer Release:Site B
(1035 to 1135 CST)
Arc: 4; Azi(deg): 323.4
R(m): 1940; Drum No. 4

| Time (CST) | Dosage (Part.) |
|---|---|
| 1119:45 | |
| 20 | 92 |
| 21 | 541 |
| 22 | 898 |
| 23 | 1205 |
| 1124:45 | 1088 |
| 25 | 936 |
| 26 | 1137 |
| 27 | 1215 |
| 28 | 657 |
| 1129:45 | 573 |
| 30 | 573 |
| 31 | 510 |
| 32 | 1769 |
| 33 | 1519 |
| 1134:45 | 975 |
| 35 | 1262 |
| 36 | 1280 |
| 37 | 777 |
| 38 | 609 |
| 1139:45 | 815 |
| 40 | 644 |
| 41 | 340 |
| 42 | 130 |
| 43 | 86 |
| 1144:45 | 51 |
| 45 | 89 |
| 46 | 29 |
| 47 | 18 |
| 48 | 12 |
| 1149:45 | 18 |
| 50 | 11 |

# Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 26
11 June 1964
Tracer Release:Site B
(1035 to 1135 CST)
Arc: 6; Azi(deg): 286.3
R(m): 7200; Drum No. 3

| Time (CST) | Dosage (Part.) |
|---|---|
| 1102:03 | |
| 04 | 5 |
| 06 | 11 |
| 08 | 23 |
| 10 | 95 |
| 1112:03 | 53 |
| 14 | 104 |
| 16 | 181 |
| 18 | 210 |
| 20 | 184 |
| 1122:03 | 165 |
| 24 | 26 |
| 26 | 5 |
| 28 | 4 |
| 30 | 2 |

Experiment No. 26
11 June 1964
Tracer Release:Site B
(1035 to1135 CST)
Arc: 6; Azi(deg): 297.0
R(m): 7490; Drum No.8

| Time (CST) | Dosage (Part.) |
|---|---|
| 1116:00 | |
| 18 | 39 |
| 20 | 215 |
| 22 | 362 |
| 24 | 411 |
| 1126:00 | 497 |
| 28 | 177 |
| 30 | 45 |
| 32 | 19 |
| 34 | 12 |

Experiment No. 26
11 June 1964
Tracer Release:Site B
(1035 to 1135 CST)
Arc: 6; Azi(deg): 316.0
R(m): 7790; Drum No. 2

| Time (CST) | Dosage (Part.) |
|---|---|
| 1125:40 | |
| 27 | 15 |
| 29 | 58 |
| 31 | 202 |
| 33 | 331 |
| 1135:40 | 564 |
| 37 | 421 |
| 39 | 293 |
| 41 | 210 |
| 43 | 107 |
| 1145:40 | 70 |
| 47 | 32 |
| 49 | 18 |
| 51 | 8 |
| 53 | 7 |
| 1155:40 | 1 |
| 57 | 4 |
| 59 | 3 |
| 1201 | 2 |

Experiment No. 26
11 June 1964
Tracer Release:Site B
(1035 to 1135 CST)
Arc: 7; Azi(deg): 293.7
R(m):16910; Drum No. 10

| Time (CST) | Dosage (Part.) |
|---|---|
| 1114:03 | |
| 16 | 13 |
| 18 | 6 |
| 20 | 3 |
| 22 | 12 |
| 1124:03 | 10 |
| 26 | 6 |
| 28 | 4 |
| 30 | 14 |
| 32 | 57 |
| 1134:03 | 22 |
| 36 | 26 |
| 38 | 27 |
| 40 | 7 |
| 42 | 13 |
| 1144:03 | 2 |
| 46 | 3 |
| 48 | 2 |
| 50 | 2 |
| 52 | 6 |
| 1154:03 | 0 |
| 56 | 3 |
| 58 | 1 |
| 1200 | 2 |
| 02 | 7 |
| 1204:03 | 2 |
| 06 | 3 |
| 08 | 2 |
| 10 | 2 |
| 12 | 4 |
| 1214:03 | 5 |

Experiment No. 26
11 June 1964
Tracer Release:Site B
(1035 to 1135 CST)
Arc: 7; Azi(deg): 309.2
R(m):17130; Drum No. 1

| Time (CST) | Dosage (Part.) |
|---|---|
| 1125:50 | |
| 27 | 2 |
| 29 | 11 |
| 31 | 5 |
| 33 | 8 |
| 1135:50 | 7 |
| 37 | 26 |
| 39 | 93 |
| 41 | 146 |
| 43 | 193 |
| 1145:50 | 188 |
| 47 | 111 |
| 49 | 197 |
| 51 | 169 |
| 53 | 167 |
| 1155:50 | 137 |
| 57 | 65 |
| 59 | 61 |
| 1201 | 45 |
| 03 | 29 |
| 1205:50 | 15 |
| 07 | 5 |
| 09 | 6 |
| 11 | 1 |
| 13 | 1 |
| 1215:50 | 1 |

Experiment No. 28
11 October 1964
Tracer Release:Site B
(1105 to 1205 CST)
Arc: 4; Azi(deg): 332.1
R(m): 1980; Drum No. 9

| Time (CST) | Dosage (Part.) |
|---|---|
| 1131:38 | |
| 32 | 76 |
| 33 | 172 |
| 34 | 424 |
| 35 | 346 |
| 1136:38 | 304 |
| 37 | 70 |
| 38 | 21 |
| 39 | 32 |
| 40 | 35 |
| 1141:38 | 21 |
| 42 | 23 |
| 43 | 280 |
| 44 | 440 |
| 45 | 236 |
| 1146:38 | 101 |
| 47 | 39 |
| 48 | 838 |
| 49 | 895 |
| 50 | 1115 |
| 1151:38 | 996 |
| 52 | 330 |
| 53 | 170 |
| 54 | 143 |
| 55 | 90 |
| 1156:38 | 46 |
| 57 | 24 |
| 58 | 14 |
| 59 | 7 |
| 1200 | 11 |
| 1201:38 | 0 |
| 02 | 4 |
| 03 | 0 |
| 04 | 1 |
| 05 | 0 |
| 1206:38 | 13 |
| 07 | 54 |
| 08 | 19 |
| 09 | 4 |
| 10 | 2 |

# Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 28
11 October 1964
Tracer Release:Site B
(1105 to 1205 CST)
Arc: 5; Azi(deg): 337.6
R(m):4120 ; Drum No. 5

| Time (CST) | Dosage (Part.) |
|---|---|
| 1141:14 | |
| 43 | 49 |
| 45 | 23 |
| 47 | 7 |

Experiment No.28
11 October 1964
Tracer Release:Site B
(1105 to 1205 CST)
Arc: 7; Azi(deg): 324.4
R(m):17150; Drum No. 7

| Time (CST) | Dosage (Part.) |
|---|---|
| 1139:28 | |
| 41 | 2 |
| 43 | 2 |
| 45 | 6 |
| 47 | 3 |
| 1149:28 | 9 |
| 51 | 3 |
| 53 | 7 |
| 55 | 2 |
| 57 | 0 |
| 1159:28 | 12 |
| 1201 | 4 |
| 03 | 5 |
| 05 | 39 |
| 07 | 58 |
| 1209:28 | 90 |
| 11 | 69 |
| 13 | 80 |
| 15 | 93 |
| 17 | 74 |
| 1219:28 | 40 |
| 21 | 31 |
| 23 | 56 |
| 25 | 76 |
| 27 | 143 |

Experiment No. 28

Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 7(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1229:28 | 70 |
| 31 | 118 |
| 33 | 172 |
| 35 | 95 |
| 37 | 124 |
| 1239:28 | 87 |
| 41 | 49 |
| 43 | 42 |
| 45 | 56 |
| 47 | 80 |
| 1249:28 | 103 |
| 51 | 138 |
| 53 | 164 |
| 55 | 130 |
| 57 | 58 |
| 1259:28 | 78 |
| 1301 | 47 |
| 03 | 68 |
| 05 | 81 |
| 07 | 64 |
| 1309:28 | 11 |
| 11 | 3 |

Experiment No. 29
12 October 1964
Tracer Release:Site A
(2000 to 2100 CST)
Arc: 1 ; Azi(deg): 105.7
R(m): 770 ; Drum No. 9

| Time (CST) | Dosage (Part.) |
|---|---|
| 2017:15 | |
| 18 | 4 |
| 19 | 7 |
| 20 | 11 |
| 21 | 8 |
| 2022:15 | 15 |
| 23 | 3 |
| 24 | 3 |
| 25 | 3 |
| 26 | 6 |
| 2027:15 | 2 |
| 28 | 2 |

Experiment No. 30
16 October 1964
Tracer Release:Site B
(2000 to 2100 CST)
Arc: 4; Azi(deg): 323.4
R(m): 1940; Drum No. 9

| Time (CST) | Dosage (Part.) |
|---|---|
| 2009:00 | |
| 09:19 | 22 |
| 10:12 | 75 |
| 11 | 90 |
| 12 | 115 |
| 2013:12 | 93 |
| 14 | 60 |
| 15 | 68 |
| 16 | 35 |
| 17 | 66 |
| 2018:12 | 49 |
| 19 | 26 |
| 20 | 27 |
| 21 | 16 |
| 22 | 18 |
| 2023:12 | 14 |
| 24 | 11 |
| 25 | 19 |
| 26 | 10 |
| 27 | 15 |
| 2028:12 | 9 |
| 29 | 12 |
| 30 | 21 |
| 31 | 15 |
| 32 | 2 |
| 2033:12 | 4 |
| 34 | 2 |
| 35 | 5 |
| 36 | 7 |
| 37 | 8 |
| 2038:12 | 4 |
| 39 | 4 |

Experiment No. 30

Tracer Release:Site
, to CST)
Arc: Azi(deg):
R(m): : Drum No.9 (Con't)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2041:12 | 2 |
| 43 | 1 |
| 45 | 3 |
| 47 | 2 |
| 49 | 2 |
| 2051:12 | 2 |
| 53 | 2 |
| 55 | 1 |
| 57 | 2 |
| 59 | 0 |

# Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 31
17 October 1964
Tracer Release Site A
(1315 to 1415 CST)
Arc: 6; Azi(deg): 355.8
R(m): 3450; Drum No. 4

| Time (CST) | Dosage (Part.) |
|---|---|
| 1503:05 | |
| 05 | 20 |
| 07 | 4 |
| 09 | 8 |
| 11 | 2 |
| 1513:05 | 1 |
| 15 | 0 |
| 17 | 3 |
| 19 | 57 |
| 21 | 43 |
| 1523:05 | 16 |
| 25 | 1 |
| 27 | 2 |
| 29 | 5 |

Experiment No. 31
17 October 1964
Tracer Release Site:A
(1315 to 1415 CST)
Arc: 7; AZi(deg): 25.1
R(m): 14250; Drum No. 1[k]

| Time (CST) | Dosage (Part.) |
|---|---|
| 1543:00 | |
| 45 | 7 |
| 47 | 7 |
| 49 | 5 |
| 51 | 7 |

Experiment No. 32
19 October 1964
Tracer Release:Site A
(1945 to 2045 CST)
Arc: 1; Azi(deg): 137.9
R(m): 670 ; Drum No. 3

| Time (CST) | Dosage (Part.) |
|---|---|
| 1954:49 | |
| 55 | 6 |
| 56 | 79 |
| 57 | 204 |
| 58 | 138 |
| 1959:49 | 21 |
| 2000 | 35 |
| 01 | 44 |
| 02 | 26 |
| 03 | 1 |
| 2004:49 | 0 |
| 05 | 1 |
| 06 | 4 |
| 07 | 2 |
| 08 | 1 |
| 2009:49 | 4 |
| 10 | 14 |
| 11 | 3 |
| 12 | 4 |
| 13 | 30 |
| 2014:49 | 235 |
| 15 | 505 |
| 16 | 192 |
| 17 | 235 |
| 18 | 1199 |
| 2019:49 | 1316 |
| 20 | 1127 |
| 21 | 515 |
| 22 | 156 |
| 23 | 176 |

Experiment No. 32
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 3(cont.)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2024:49 | 311 |
| 25 | 575 |
| 26 | 2249 |
| 27 | 2535 |
| 28 | 4520 |
| 2029:49 | 4520 |
| 30 | 5440 |
| 31 | 4320 |
| 32 | 5800 |
| 33 | 10320 |
| 2034:49 | 7040 |
| 35 | 6720 |
| 36 | 6200 |
| 37 | 4440 |
| 38 | 6040 |
| 2039:49 | 5680 |
| 40 | 3800 |
| 41 | 3800 |
| 42 | 4920 |
| 43 | 9080 |
| 2044:49 | 6360 |
| 45 | 5840 |
| 46 | 8600 |
| 47 | 8880 |
| 48 | 5320 |
| 2049:49 | 4160 |
| 50 | 4880 |
| 51 | 3160 |
| 52 | 2480 |
| 53 | 248 |

Experiment No. 32
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 3(cont.)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2054:49 | 168 |
| 55 | 173 |
| 56 | 103 |
| 57 | 41 |
| 58 | 56 |
| 2059:49 | 32 |
| 2100 | 6 |
| 01 | 10 |
| 02 | 3 |
| 03 | 3 |
| 2104:49 | 6 |
| 05 | 2 |
| 06 | 4 |
| 07 | 5 |
| 08 | 12 |
| 2109:49 | 1 |
| 10 | 7 |
| 11 | 3 |
| 12 | 3 |
| 13 | 4 |
| 2114:49 | 1 |
| 15:47 | 9 |

Experiment No. 32
19 October 1964
Tracer Release:Site A
(1945 to 2045 CST)
Arc: 4; Azi(deg): 154.5
R(m): 600 ; Drum No. 9

| Time (CST) | Dosage (Part.) |
|---|---|
| 1951:57 | |
| 52 | 13 |
| 53 | 25 |
| 54 | 112 |
| 55 | 832 |
| 1956:57 | 4966 |
| 57 | 9095 |
| 58 | 7979 |
| 59 | 7977 |
| 2000 | 12778 |
| 2001:57 | 11774 |
| 02 | 15568 |
| 03 | 10825 |
| 04 | 14954 |
| 05 | 19457 |
| 2006:57 | 11383 |
| 07 | 11216 |
| 08 | 7645 |
| 09 | 5528 |
| 10 | 7142 |
| 2011:57 | 7477 |
| 12 | 7868 |
| 13 | 6426 |
| 14 | 8091 |
| 15 | 6361 |

Experiment No. 32
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.9(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2016:57 | 3069 |
| 17 | 3460 |
| 18 | 1941 |
| 19 | 1091 |
| 20 | 580 |
| 2021:57 | 1303 |
| 22 | 4743 |
| 23 | 8316 |
| 24 | 2063 |
| 25 | 6973 |
| 2026:57 | 3988 |
| 27 | 3437 |
| 28 | 1518 |
| 29 | 189 |
| 30 | 34 |
| 2031:57 | 23 |
| 32 | 8 |
| 33 | 12 |
| 34 | 224 |
| 35 | 69 |
| 2036:57 | 13 |
| 37 | 8 |
| 38 | 7 |
| 39 | 4 |
| 40 | 6 |

[k] Part of measured dosage assumed to be contamination; no satisfactory method discovered for adjusting listed sequential patterns.

## Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 32
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.9(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2041:57 | 26 |
| 42 | 28 |
| 43 | 10 |
| 44 | 7 |
| 45 | 9 |
| 2046:57 | 9 |
| 47 | 7 |
| 48 | 7 |
| 49 | 3 |
| 50 | 6 |
| 2051:57 | 7 |
| 52 | 5 |
| 53 | 16 |
| 54 | 8 |
| 55 | 7 |
| 2056:57 | 5 |
| 57 | 2 |
| 58 | 2 |
| 59 | 8 |
| 2100 | 9 |
| 2101:57 | 3 |
| 02:57 | 7 |
| 03:55 | 5 |

Experiment No. 32
19 October 1964
Tracer Release:Site A
(1945 to 2045 CST)
Arc: 2; Azi(deg): 122.6
R(m): 3080; Drum No. 4

| Time (CST) | Dosage (Part.) |
|---|---|
| 2038:35 | |
| 39 | 8 |
| 40 | 15 |
| 41 | 11 |
| 42 | 7 |
| 2043:35 | 7 |
| 44 | 6 |
| 45 | 6 |
| 46 | 1 |
| 47 | 3 |
| 2048:35 | 7 |
| 49 | 10 |
| 50 | 0 |
| 51 | 1 |
| 52 | 7 |
| 2053:35 | 11 |
| 54 | 11 |
| 55 | 7 |
| 56 | 15 |
| 57 | 7 |
| 2058:35 | 18 |
| 59 | 31 |
| 2100 | 48 |
| 01 | 62 |
| 02 | 48 |

Experiment No. 32
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 4(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2103:35 | 42 |
| 04 | 52 |
| 05 | 58 |
| 06 | 77 |
| 07 | 66 |
| 2108:35 | 56 |
| 09 | 76 |
| 10 | 45 |
| 11 | 19 |
| 12 | 15 |
| 2113:35 | 13 |
| 14 | 11 |
| 15 | 8 |
| 16 | 4 |
| 17 | 3 |
| 2118:35 | 4 |
| 19 | 1 |
| 20 | 8 |

Experiment No. 32
19 October 1964
Tracer Release:Site A
(1945 to 2045 CST)
Arc: 3 Azi(deg): 138.7
R(m): 3320 ; Drum No. 5

| Time (CST) | Dosage (Part.) |
|---|---|
| 2028:40 | |
| 29 | 24 |
| 30 | 56 |
| 31 | 36 |
| 32 | 23 |
| 2033:40 | 24 |
| 34 | 15 |
| 35 | 7 |
| 36 | 123 |
| 37 | 122 |
| 2038:40 | 229 |
| 39 | 517 |
| 40 | 459 |
| 41 | 653 |
| 42 | 969 |
| 2043:40 | 729 |
| 44 | 842 |
| 45 | 603 |
| 46 | 505 |
| 47 | 882 |
| 2048:40 | 862 |
| 49 | 691 |
| 50 | 725 |
| 51 | 696 |
| 52 | 818 |

Experiment No. 32
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.5(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2053:40 | 907 |
| 54 | 887 |
| 55 | 1210 |
| 56 | 1044 |
| 57 | 678 |
| 2058:40 | 663 |
| 59 | 464 |
| 2100 | 668 |
| 01 | 546 |
| 02 | 510 |
| 2103:40 | 117 |
| 04 | 41 |
| 05 | 26 |
| 06 | 21 |
| 07 | 13 |
| 2108:40 | 12 |
| 09 | 14 |
| 10 | 4 |
| 11 | 13 |
| 12 | 5 |
| 2113:40 | 5 |
| 14 | 5 |
| 15 | 1 |
| 16 | 2 |
| 17 | 10 |

Experiment No. 32
19 October 1964
Tracer Release:Site A
(1945 to 2045 CST)
Arc: 2; Azi(deg): 160.2
R(m): 3180; Drum No. 12

| Time (CST) | Dosage (Part.) |
|---|---|
| 1956:04 | |
| 57 | 9 |
| 58 | 21 |
| 59 | 43 |
| 2000 | 47 |
| 2001:04 | 281 |
| 02 | 529 |
| 03 | 676 |
| 04 | 600 |
| 05 | 648 |
| 2006:04 | 730 |
| 07 | 798 |
| 08 | 812 |
| 09 | 812 |
| 10 | 880 |
| 2011:04 | 1132 |
| 12 | 1105 |
| 13 | 948 |
| 14 | 996 |
| 15 | 1043 |
| 2016:04 | 723 |
| 17 | 750 |
| 18 | 969 |
| 19 | 730 |
| 20 | 777 |

# Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 32
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 12(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2021:04 | 1037 |
| 22 | 587 |
| 23 | 292 |
| 24 | 184 |
| 25 | 184 |
| 2026:04 | 146 |
| 27 | 117 |
| 28 | 90 |
| 29 | 48 |
| 30 | 53 |
| 2031:04 | 22 |
| 32 | 19 |
| 33 | 16 |
| 34 | 5 |
| 35 | 10 |
| 2036:04 | 3 |
| 37 | 5 |

Experiment No. 32
19 October 1964
Tracer Release:Site A
(1945 to 2045 CST)
Arc: 3; Azi(deg): 136.7
R(m):6250 ; Drum No.7

| Time (CST) | Dosage (Part.) |
|---|---|
| 2034:34 | |
| 36 | 8 |
| 38 | 6 |
| 40 | 2 |
| 42 | 2 |
| 2044:34 | 1 |
| 46 | 36 |
| 48 | 341 |
| 50 | 560 |
| 52 | 714 |
| 2054:34 | 985 |
| 56 | 1166 |
| 58 | 797 |
| 2100 | 648 |
| 02 | 758 |
| 2104:34 | 739 |
| 06 | 855 |
| 08 | 985 |
| 10 | 972 |
| 12 | 680 |
| 2114:34 | 661 |
| 16 | 544 |
| 18 | 752 |
| 20 | 241 |
| 22 | 173 |
| 2124:34 | 81 |
| 26 | 36 |
| 28 | 5 |
| 30 | 5 |
| 32 | 5 |
| 2134:34 | 4 |
| 36 | 6 |
| 38 | 5 |
| 40 | 1 |
| 42 | 5 |
| 2144:34 | 3 |
| 46 | 5 |

Experiment No. 33
20 October 1964
Tracer Release:Site A
(1915 to 2015 CST)
Arc: 1; Azi(deg): 35.4
R(m): 910; Drum No. 3

| Time (CST) | Dosage (Part.) |
|---|---|
| 1924:48 | |
| 25 | 9 |
| 26 | 13 |
| 27 | 3 |
| 28 | 1 |
| 1929:48 | 16 |
| 30 | 13 |
| 31 | 18 |
| 32 | 0 |
| 33 | 3 |
| 1934:48 | 13 |
| 35 | 16 |
| 36 | 32 |
| 37 | 11 |
| 38 | 12 |
| 1939:48 | 4 |
| 40 | 52 |
| 41 | 63 |
| 42 | 100 |
| 43 | 46 |
| 1944:48 | 2 |
| 45 | 10 |
| 46 | 3 |
| 47 | 48 |
| 48 | 4 |
| 1949:48 | 205 |
| 50 | 4 |
| 51 | 11 |
| 52 | 6 |
| 53 | 63 |
| 1954:48 | 107 |
| 55 | 84 |
| 56 | 217 |
| 57 | 284 |
| 58 | 397 |

Experiment No.33
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.3(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1959:48 | 304 |
| 2000 | 382 |
| 01 | 564 |
| 02 | 451 |
| 03 | 230 |
| 2004:48 | 134 |
| 05 | 87 |
| 06 | 363 |
| 07 | 47 |
| 08 | 70 |
| 2009:48 | 21 |
| 10 | 34 |
| 11 | 15 |
| 12 | 17 |
| 13 | 16 |
| 2014:48 | 5 |
| 15 | 2 |
| 16 | 10 |
| 17 | 7 |
| 18 | 1 |
| 2019:48 | 8 |
| 20 | 3 |
| 21 | 6 |
| 22 | 1 |
| 23 | 2 |
| 2024:48 | 3 |
| 25 | 5 |

Experiment No.33
20 October 1964
Tracer Release:Site A
(1915 to 2015 CST)
Arc: 3; Azi(deg): 19.6
R(m): 6980; Drum No. 8

| Time (CST) | Dosage (Part.) |
|---|---|
| 1934:36 | |
| 36 | 15 |
| 38 | 129 |
| 40 | 351 |
| 42 | 382 |
| 1944:36 | 409 |
| 46 | 614 |
| 48 | 1248 |
| 50 | 2790 |
| 52 | 2846 |
| 1954:36 | 2734 |
| 56 | 2734 |
| 58 | 1487 |
| 2000 | 1248 |
| 02 | 1071 |
| 2004:36 | 1309 |
| 06 | 1330 |
| 08 | 1480 |
| 10 | 1214 |
| 12 | 859 |
| 2014:36 | 798 |
| 16 | 846 |
| 18 | 798 |
| 20 | 825 |
| 22 | 1439 |
| 2024:36 | 1337 |
| 26 | 1255 |
| 28 | 1719 |
| 30 | 1528 |
| 32 | 1698 |

Experiment No. 33
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 8(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2034:36 | 1814 |
| 36 | 1719 |
| 38 | 1657 |
| 40 | 1780 |
| 42 | 1596 |
| 2044:36 | 1930 |
| 46 | 1514 |
| 48 | 1364 |
| 50 | 1344 |
| 52 | 1030 |
| 2054:36 | 771 |
| 56 | 512 |
| 58 | 368 |
| 2100 | 222 |
| 02 | 137 |
| 2104:36 | 80 |
| 06 | 48 |
| 08 | 30 |
| 10 | 22 |
| 12 | 13 |
| 2114:36 | 15 |
| 16 | 12 |
| 18 | 7 |
| 20 | 10 |
| 22 | 3 |
| 2124:36 | 5 |
| 26 | 11 |
| 28:36 | 3 |
| 30:33 | 24 |
| 32 | 24 |

# Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 35
6 March 1965
Tracer Release:Site A
(1230 to 1330 CST)
Arc: 1; Azi(deg): 137.9
R(m): 670 ; Drum No. 4[1]

| Time (CST) | Dosage (Part.) |
|---|---|
| 1303:35 | |
| 04 | 5 |
| 05 | 5 |
| 06 | 3 |
| 07 | 3 |
| 1308:35 | 54 |
| 09 | 51 |
| 10 | 4 |
| 11 | 1 |
| 12 | 0 |
| 1313:35 | 4 |
| 14 | 2 |
| 15 | 2 |
| 16 | 5 |
| 17 | 3 |
| 1318:35 | 7 |
| 19 | 12 |
| 20 | 11 |
| 21 | 14 |
| 22 | 1 |
| 1323:35 | 1 |
| 24 | 17 |
| 25 | 47 |
| 26 | 4 |
| 27 | 0 |
| 1328:35 | 1 |
| 29 | 1 |
| 30 | 27 |
| 31 | 5 |
| 32 | 118 |
| 1333:35 | 342 |
| 34 | 103 |
| 35 | 377 |
| 36 | 57 |
| 37 | 5 |

[1]Sampler operated improperly until about 1302 CST; adjustment to the measured dosage considered unnecessary.

Experiment No. 36
7 March 1965
Tracer Release:Site A
(1230 to 1330 CST)
Arc: 1 ; Azi(deg): 154.5
R(m): 600 ; Drum No. 4[m]

| Time (CST) | Dosage (Part.) |
|---|---|
| 1233:10 | |
| 34 | ( 6) |
| 35 | ( 67) |
| 36 | (217) |
| 37 | (345) |
| 1238:10 | (326) |
| 39 | ( 23) |
| 40 | ( 23) |
| 41 | ( 58) |
| 42 | (137) |
| 1243:10 | ( 66) |
| 44 | ( 12) |
| 45 | ( 6) |
| 46 | ( 2) |
| 47 | ( 2) |
| 1248:10 | ( 9) |
| 49 | ( 21) |
| 50 | ( 18) |
| 51 | ( 34) |
| 52 | ( 42) |
| 1253:10 | ( 28) |
| 54 | ( 35) |
| 55 | ( 2) |
| 56 | ( 3) |
| 57 | ( 1) |

[m]Measured dosage disregarded (Table IV); sequential dosage patterns listed here in parentheses; rain cover blew over intake orifice at an unknown time.

Experiment No. 36

Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.4[m](cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1258:10 | ( 6) |
| 59 | ( 26) |
| 1300 | ( 60) |
| 01 | ( 18) |
| 02 | ( 12) |
| 1303:10 | ( 12) |
| 04 | ( 36) |
| 05 | ( 9) |
| 06 | ( 15) |
| 07 | ( 26) |
| 1308:10 | ( 19) |
| 09 | ( 45) |
| 10 | ( 34) |
| 11 | ( 8) |
| 12 | ( 10) |
| 1313:10 | ( 13) |
| 14 | ( 24) |
| 15 | ( 12) |
| 16 | ( 12) |
| 17 | ( 11) |
| 1318:10 | ( 16) |
| 19 | ( 19) |

Experiment No. 36
7 March 1965
Tracer Release:Site A
(1230 to 1330 CST)
Arc: 2; Azi(deg): 160.2
R(m): 3180; Drum No. 10

| Time (CST) | Dosage (Part.) |
|---|---|
| 1240:54 | |
| 42 | 267 |
| 44 | 560 |
| 46 | 1002 |
| 48 | 170 |
| 1250:54 | 49 |
| 52 | 65 |
| 54 | 583 |
| 56 | 823 |
| 58 | 739 |
| 1300:54 | 492 |
| 02 | 1244 |
| 04 | 1231 |
| 06 | 868 |
| 08 | 629 |
| 1310:54 | 241 |
| 12 | 428 |
| 14 | 98 |
| 16 | 10 |
| 18 | 2 |
| 1320:54 | 2 |
| 22 | 9 |
| 24 | 54 |
| 26 | 10 |

Experiment No. 36
7 March 1965
Tracer Release:Site A
(1230 to 1330 CST)
Arc:3 ; Azi(deg): 145.0
R(m): 6380; Drum No. 8

| Time (CST) | Dosage (Part.) |
|---|---|
| 1327:57 | |
| 29 | 7 |
| 31 | 15 |
| 33 | 5 |
| 35 | 55 |
| 1337:57 | 212 |
| 39 | 194 |
| 41 | 75 |
| 43 | 18 |
| 45 | 13 |
| 1347:57 | 30 |
| 49 | 29 |
| 51 | 100 |
| 53 | 43 |
| 55 | 28 |
| 1357:57 | 27 |
| 59 | 23 |
| 1401 | 4 |
| 03 | 3 |

Experiment No. 36
7 March 1965
Tracer Release:Site A
(1230 to 1330 CST)
Arc: 3; Azi(deg): 159.3
R(m): 6960; Drum No. 7[m]

| Time (CST) | Dosage (Part.) |
|---|---|
| 1248:22 | |
| 50 | ( 6) |
| 52 | ( 27) |
| 54 | ( 54) |
| 56 | ( 30) |
| 1258:22 | ( 10) |
| 1300 | ( 3) |
| 02 | ( 30) |
| 04 | ( 17) |
| 06 | ( 1) |
| 1308:22 | ( 29) |
| 10 | ( 58) |
| 12 | (164) |
| 14 | (294) |
| 16 | (104) |
| 1318:22 | ( 88) |
| 20 | ( 21) |
| 22 | ( 29) |
| 24 | ( 17) |
| 26 | ( 5) |
| 1328:22 | ( 6) |
| 30 | ( 5) |

[m]Measured dosage disregarded (Table IV); sequential dosage patterns listed in parentheses; sampler seemed to be operating improperly.

# Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 37
8 March 1965
Tracer Release:Site A
(2030 to 2130 CST)
Arc: 1; Azi(deg): 110.9
R(m): 740; Drum No. 4

| Time (CST) | Dosage (Part.) |
|---|---|
| 2023:44 | |
| 24 | 3 |
| 25 | 5 |
| 26 | 13 |
| 27 | 3 |
| 2028:44 | 6 |
| 29 | 2 |
| 30 | 3 |
| 31 | 3 |
| 32 | 536 |
| 2033:44 | 7680 |
| 34 | 9720 |
| 35 | 8880 |
| 36 | 7960 |
| 37 | 12840 |
| 2038:44 | 14960 |
| 39 | 13200 |
| 40 | 16920 |
| 41 | 17080 |
| 42 | 17640 |
| 2043:44 | 19280 |
| 44 | 15920 |
| 45 | 11200 |
| 46 | 10920 |
| 47 | 13080 |
| 2048:44 | 15240 |
| 49 | 16160 |
| 50 | 14920 |
| 51 | 17640 |
| 52 | 22040 |

Experiment No. 37

Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.4(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2053:44 | 17680 |
| 54 | 12120 |
| 55 | 17640 |
| 56 | 20320 |
| 57 | 19520 |
| 2058:44 | 20160 |
| 59 | 20000 |
| 2100 | 32000 |
| 01 | 35000 |
| 02 | 32000 |
| 2103:44 | 40000 |
| 04 | 40000 |
| 05 | 26000 |
| 06 | 15000 |
| 07 | 18000 |
| 2108:44 | 40000 |
| 09 | 40000 |
| 10 | 40000 |
| 11 | 26000 |
| 12 | 35000 |
| 2113:44 | 20000 |
| 14 | 20000 |
| 15 | 25000 |
| 16 | 30000 |
| 17 | 25000 |
| 2118:44 | 20000 |
| 19 | 20000 |
| 20 | 20000 |
| 21 | 20000 |
| 22 | 26000 |

Experiment No. 37

Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.4(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2123:44 | 20000 |
| 24 | 20000 |
| 25 | 20000 |
| 26 | 25000 |
| 27 | 27000 |
| 2128:44 | 23000 |
| 29 | 27000 |
| 30 | 23000 |
| 31 | 20000 |
| 32 | 26000 |
| 2133:44 | 24000 |
| 34 | 20000 |
| 35 | 2213 |
| 36 | 298 |
| 37 | 177 |
| 2138:44 | 89 |
| 39 | 37 |
| 40 | 40 |
| 41 | 28 |
| 42 | 65 |
| 2143:44 | 44 |
| 44 | 82 |
| 45 | 22 |
| 46 | 52 |
| 47 | 4 |
| 2148:44 | 7 |
| 49 | 9 |
| 50 | 14 |
| 51 | 30 |
| 52 | 3 |
| 2153:44 | 11 |
| 54 | 24 |

Experiment No. 37
8 March 1965
Tracer Release:Site A
(2030 to 2130 CST)
Arc: 3; Azi(deg): 116.7
R(m): 6410; Drum No. 8

| Time (CST) | Dosage (Part.) |
|---|---|
| 2046:23 | |
| 48 | 17 |
| 50 | 11 |
| 52 | 54 |
| 54 | 22 |
| 2056:23 | 33 |
| 58 | 10 |
| 2100 | 15 |
| 02 | 54 |
| 04 | 129 |
| 2106:23 | 277 |
| 08 | 201 |
| 10 | 137 |
| 12 | 243 |
| 14 | 119 |
| 2116:23 | 15 |
| 18 | 45 |
| 20 | 19 |
| 22 | 7 |

Experiment No. 38
11 March 1965
Tracer Release:Site A
(2030 to 2130 CST)
Arc: 1; Azi(deg): 35.4
R(m): 910 ; Drum No. 4[a]

| Time (CST) | Dosage (Part.) |
|---|---|
| 2012:55 | |
| 13 | (11) |
| 14 | (49) |
| 15 | (40) |
| 16 | (41) |
| 2017:55 | (47) |
| 18 | (36) |
| 19 | (52) |
| 20 | (45) |
| 21 | (30) |
| 2022:55 | (45) |
| 23 | (29) |
| 24 | (53) |
| 25 | (68) |
| 26 | (55) |
| 2027:55 | (73) |
| 28 | (79) |
| 29 | (45) |
| 30 | (15) |
| 31 | (14) |
| 2032:55 | (32) |
| 33 | (49) |
| 34 | (33) |
| 35 | (17) |
| 36 | (22) |
| 2037:55 | (12) |
| 38 | (17) |
| 39 | (19) |
| 40 | (35) |
| 41 | (16) |

Experiment No.38

Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 4[a] (Con't)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2042:55 | (24) |
| 43 | (30) |
| 44 | (20) |
| 45 | (14) |
| 46 | (25) |
| 2047:55 | ( 9) |
| 48 | (39) |
| 49 | (18) |
| 50 | ( 9) |
| 51 | (16) |
| 2052:55 | (26) |
| 53 | (15) |
| 54 | ( 9) |
| 55 | (13) |
| 56 | (15) |
| 2057:55 | (11) |
| 58 | (32) |
| 59 | (10) |
| 2100 | (39) |
| 01 | (11) |
| 2102:55 | (10) |
| 03 | (18) |
| 04 | ( 6) |
| 05 | (13) |
| 06 | (22) |
| 2107:55 | (14) |
| 08 | (20) |
| 09 | (10) |
| 10 | (15) |
| 11 | (30) |

[a] Measured dosage considered to be entirely contamination; sequential patterns listed here in parentheses.

## Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 38
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 4(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2112:55 | ( 4) |
| 13 | (10) |
| 14 | ( 6) |
| 15 | ( 7) |
| 16 | (11) |
| 2117:55 | ( 9) |
| 18 | (10) |
| 19 | ( 8) |
| 20 | ( 6) |
| 21 | ( 4) |
| 2122:55 | (11) |
| 23 | (21) |
| 24 | ( 6) |
| 25 | ( 6) |
| 26 | (11) |
| 2127:55 | (17) |
| 28 | (12) |
| 29 | (13) |
| 30 | (12) |
| 31 | ( 5) |
| 2132:55 | (12) |
| 33 | ( 6) |
| 34 | (14) |
| 35 | ( 5) |
| 36 | ( 6) |
| 2137:55 | ( 3) |
| 38 | ( 8) |
| 39 | (16) |
| 40 | (13) |
| 41 | ( 8) |

Experiment No. 38
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 4 (cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2142:55 | ( 3) |
| 43 | ( 2) |
| 44 | ( 5) |
| 45 | ( 9) |
| 46 | ( 7) |
| 2147:55 | (12) |
| 48 | ( 7) |
| 49 | ( 6) |
| 50 | ( 6) |
| 51 | ( 5) |
| 2152:55 | ( 8) |
| 53 | (11) |
| 54 | ( 5) |
| 55 | ( 3) |
| 56 | (14) |
| 2157:55 | (58) |
| 58:10 | ( 4) |

Experiment No. 39
13 March 1965
Tracer Release:Site A
(1220 to 1320 CST)
Arc: 1 ; Azi(deg): 68.9
R(m): 850; Drum No. 3

| Time (CST) | Dosage (Part.) |
|---|---|
| 1316:12 | |
| 17 | 52 |
| 18 | 72 |
| 19 | 8 |

Experiment No. 39
13 March 1965
Tracer Release:Site A
(1220 to 1320 CST)
Arc: 1; Azi(deg): 110.9
R(m): 740; Drum No. 4

| Time (CST) | Dosage (Part.) |
|---|---|
| 1222:38 | |
| 23 | 15 |
| 24 | 4 |
| 25 | 0 |
| 26 | 4 |
| 1227:38 | 2 |
| 28 | 5 |
| 29 | 9 |
| 30 | 9 |
| 31 | 6 |
| 1232:38 | 13 |
| 33 | 3 |
| 34 | 2 |
| 35 | 20 |
| 36 | 29 |
| 1237:38 | 6 |
| 38 | 6 |
| 39 | 6 |
| 40 | 10 |
| 41 | 3 |
| 1242:38 | 28 |
| 43 | 9 |
| 44 | 1 |
| 45 | 0 |
| 46 | 1 |
| 1247:38 | 8 |
| 48 | 1 |
| 49 | 2 |
| 50 | 2 |
| 51 | 1 |

Experiment No. 39
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.4(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1252:38 | 6 |
| 53 | 5 |
| 54 | 232 |
| 55 | 156 |
| 56 | 205 |
| 1257:38 | 59 |
| 58 | 29 |
| 59 | 2 |
| 1300 | 5 |
| 01 | 12 |
| 1302:38 | 11 |
| 03 | 7 |
| 04 | 2 |
| 05 | 3 |
| 06 | 5 |
| 1307:38 | 17 |
| 08 | 8 |
| 09 | 11 |
| 10 | 3 |
| 11 | 2 |
| 1312:38 | 3 |
| 13 | 3 |
| 14 | 1 |
| 15 | 2 |
| 16 | 0 |
| 1317:38 | 150 |
| 18 | 281 |
| 19 | 241 |
| 20 | 523 |
| 21 | 1576 |

Experiment No. 39
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 4(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1322:38 | 1158 |
| 23 | 1046 |
| 24 | 510 |
| 25 | 2050 |
| 26 | 357 |
| 1327:38 | 192 |
| 28 | 218 |
| 29 | 607 |
| 30 | 423 |
| 31 | 135 |
| 1332:38 | 188 |
| 33 | 106 |
| 34 | 19 |
| 35 | 3 |
| 36 | 4 |
| 1337:38 | 2 |
| 38 | 5 |
| 39 | 7 |
| 40 | 8 |
| 41 | 3 |
| 1342:38 | 4 |
| 43 | 6 |
| 44 | 11 |
| 45 | 4 |
| 46 | 9 |
| 1347:38 | 5 |
| 48 | 8 |

[a] Measured dosage considered to be entirely contamination; sequential patterns listed here in parentheses.

# Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 39
13 March 1965
Tracer Release:Site A
(1220 to 1320 CST)
Arc: 2; Azi(deg): 88.4
R(m): 3072 Drum No. 12

| Time (CST) | Dosage (Part.) |
|---|---|
| 1241:26 | |
| 41 | 41 |
| 43 | 96 |
| 45 | 96 |
| 47 | 84 |
| 49 | 84 |
| 1251:26 | 158 |
| 53 | 201 |
| 55 | 235 |
| 57 | 116 |
| 59 | 129 |
| 1301:26 | 127 |
| 03 | 121 |
| 05 | 37 |
| 07 | 172 |
| 09 | 355 |
| 1311:26 | 268 |
| 13 | 335 |
| 15 | 356 |
| 17 | 150 |
| 19 | 144 |
| 1321:26 | 156 |
| 23 | 54 |
| 25 | 62 |
| 27 | 219 |
| 29 | 456 |
| 1331:26 | 346 |
| 33 | 503 |
| 35 | 524 |
| 37 | 335 |
| 39 | 346 |

Experiment No. 39
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.12(cont.)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1341:26 | 314 |
| 43 | 295 |
| 45 | 328 |
| 47 | 334 |
| 49 | 252 |
| 1351:26 | 288 |
| 53 | 427 |
| 55 | 267 |
| 57 | 298 |
| 59 | 126 |
| 1401:26 | 54 |
| 03 | 19 |
| 05 | 23 |
| 07 | 19 |
| 09 | 20 |
| 1411:26 | 11 |
| 13 | 25 |
| 15 | 8 |
| 17 | 12 |
| 19 | 15 |
| 1421:26 | 18 |
| 23:23 | 13 |

Experiment No. 39
13 March 1965
Tracer Release:Site A
(1220 to 1320 CST)
Arc: 2; Azi(deg): 116.0
R(m): 3380; Drum No. 10

| Time (CST) | Dosage (Part.) |
|---|---|
| 1240:42 | |
| 42 | 5 |
| 44 | 72 |
| 46 | 132 |
| 48 | 253 |
| 1250:42 | 230 |
| 52 | 305 |
| 54 | 320 |
| 56 | 335 |
| 58 | 288 |
| 1300:42 | 278 |
| 02 | 299 |
| 04 | 451 |
| 06 | 395 |
| 08 | 512 |
| 1310:42 | 421 |
| 12 | 596 |
| 14 | 603 |
| 16 | 486 |
| 18 | 305 |
| 1320:42 | 360 |
| 22 | 288 |
| 24 | 222 |
| 26 | 299 |
| 28 | 403 |

Experiment No. 39
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.10(cont.)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1330:42 | 518 |
| 32 | 589 |
| 34 | 391 |
| 36 | 304 |
| 38 | 340 |
| 1340:42 | 419 |
| 42 | 398 |
| 44 | 487 |
| 46 | 440 |
| 48 | 440 |
| 1350:42 | 461 |
| 52 | 388 |
| 54 | 514 |
| 56 | 398 |
| 58 | 460 |
| 1400:42 | 369 |
| 02 | 220 |
| 04 | 317 |
| 06 | 245 |
| 08 | 292 |
| 1410:42 | 234 |
| 12 | 151 |

Experiment No. 39
13 March 1965
Tracer Release:SiteA
(1220 to 1320 CST)
Arc: 3; Azi(deg): 84.7
R(m): 7240; Drum No. 1P

| Time (CST) | Dosage (Part.) |
|---|---|
| 1400:50 | |
| 02 | 8 |
| 04 | 6 |
| 06 | 5 |
| 08 | 1 |
| 1410:50 | 5 |
| 12 | 6 |
| 14 | 28 |
| 16 | 7 |
| 18 | 15 |
| 1420:50 | 17 |
| 22 | 17 |
| 24 | 29 |
| 26 | 40 |
| 28 | 47 |
| 1430:50 | 56 |
| 32 | 52 |
| 34 | 67 |
| 36 | 52 |
| 38 | 99 |
| 1440:50 | 66 |
| 42 | 79 |
| 44 | 112 |
| 46 | 111 |
| 48 | 81 |
| 1450:50 | 90 |
| 52 | 99 |
| 54 | 98 |

Experiment No. 39
13 March 1965
Tracer Release:Site A
(1220 to 1320 CST)
Arc: 3; Azi(deg): 97.8
R(m): 6910; Drum No. 8

| Time (CST) | Dosage (Part.) |
|---|---|
| 1340:05 | |
| 42 | 17 |
| 44 | 5 |
| 46 | 9 |
| 48 | 3 |
| 1350:05 | 7 |
| 52 | 10 |
| 54 | 7 |
| 56 | 15 |
| 58 | 41 |
| 1400:05 | 48 |
| 02 | 72 |
| 04 | 46 |
| 06 | 45 |
| 08 | 153 |
| 1410:05 | 48 |
| 12 | 57 |
| 14 | 38 |
| 16 | 60 |
| 18 | 64 |
| 1420:05 | 57 |
| 22 | 68 |
| 24 | 70 |
| 26 | 158 |
| 28 | 164 |

[P] Sampler probably turned off before entire tracer cloud reached it. Total dosage adjusted (Table IV) but no satisfactory method discovered for adjusting listed sequential patterns.

[Q] Sampler turned off before entire tracer cloud reached it. Total dosage adjusted (Table IV) but no satisfactory method discovered for adjusting listed sequential patterns.

# Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 39
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 8[1](cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1430:05 | 182 |
| 32 | 151 |
| 34 | 137 |
| 36 | 135 |
| 38 | 137 |
| 1440:05 | 143 |
| 42 | 182 |
| 44 | 100 |
| 46 | 132 |
| 48 | 161 |
| 1450:05 | 156 |
| 52 | 110 |
| 54 | 90 |
| 56 | 64 |
| 58 | 51 |
| 1500:05 | 61 |
| 02 | 72 |
| 04 | 55 |
| 06 | 51 |

Experiment No. 39
13 March 1965
Tracer Release:Site A
(1220 to 1320 CST)
Arc:3 ; Azi(deg): 116.7
R(m): 6410; Drum No. 2

| Time (CST) | Dosage (Part.) |
|---|---|
| 1323:12 | |
| 25 | 4 |
| 27 | 4 |
| 29 | 1 |
| 31 | 3 |
| 1333:12 | 1 |
| 35 | 20 |
| 37 | 13 |
| 39 | 20 |
| 41 | 11 |
| 1343:12 | 12 |
| 45 | 7 |
| 47 | 18 |
| 49 | 24 |
| 51 | 18 |
| 1353:12 | 49 |
| 55 | 30 |
| 57 | 23 |
| 59 | 14 |
| 1401 | 30 |

Experiment No. 39
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 2(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1403:12 | 27 |
| 05 | 26 |
| 07 | 13 |
| 09 | 30 |
| 11 | 35 |
| 1413:12 | 40 |
| 15 | 40 |
| 17 | 56 |
| 19 | 34 |
| 21 | 39 |
| 1423:12 | 40 |
| 25 | 29 |
| 27 | 35 |
| 29 | 40 |
| 31 | 18 |
| 1433:12 | 13 |
| 35 | 15 |
| 37 | 7 |

Experiment No. 40
14 March 1965
Tracer Release:Site A
(1100 to 1200 CST)
Arc:1 ; Azi(deg): 110.9
R(m): 740 ; Drum No. 4

| Time (CST) | Dosage (Part.) |
|---|---|
| 1100:37 | |
| 01 | 38 |
| 02 | 2040 |
| 03 | 4600 |
| 04 | 2320 |
| 1105:37 | 258 |
| 06 | 55 |
| 07 | 5920 |
| 08 | 17960 |
| 09 | 17280 |
| 1110:37 | 8480 |
| 11 | 3440 |
| 12 | 11080 |
| 13 | 12280 |
| 14 | 8640 |
| 1115:37 | 2240 |
| 16 | 178 |
| 17 | 755 |
| 18 | 932 |
| 19 | 4640 |
| 1120:37 | 10520 |
| 21 | 3920 |
| 22 | 541 |
| 23 | 47 |
| 24 | 28 |
| 1125:37 | 354 |
| 26 | 170 |
| 27 | 42 |
| 28 | 26 |
| 29 | 5 |

Experiment No. 40
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.4 (Con't)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1130:37 | 34 |
| 31 | 8 |
| 32 | 268 |
| 33 | 3880 |
| 34 | 4160 |
| 1135:37 | 9000 |
| 36 | 1765 |
| 37 | 816 |
| 38 | 2249 |
| 39 | 1647 |
| 1140:37 | 377 |
| 41 | 770 |
| 42 | 13200 |
| 43 | 2555 |
| 44 | 2417 |
| 1145:37 | 19560 |
| 46 | 18320 |
| 47 | 1734 |
| 48 | 18040 |
| 49 | 20520 |
| 1150:37 | 6960 |
| 51 | 19520 |
| 52 | 2015 |
| 53 | 592 |
| 54 | 1382 |
| 1155:37 | 2137 |
| 56 | 1280 |
| 57 | 2586 |
| 58 | 1994 |
| 59 | 5000 |

Experiment No. 40
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.4 (Con't)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1200:37 | 5360 |
| 01 | 4160 |
| 02 | 1153 |
| 03 | 301 |
| 04 | 52 |
| 1205:37 | 34 |
| 06 | 12 |
| 07 | 9 |
| 08 | 15 |
| 09 | 38 |
| 1210:37 | 25 |
| 11 | 19 |
| 12 | 17 |
| 13 | 13 |
| 14 | 2 |
| 1215:37 | 12 |
| 16 | 15 |
| 17 | 3 |
| 18 | 6 |
| 19 | 7 |

[1] Sampler turned off before entire tracer cloud reached it. Total dosage adjusted (Table IV) but no satisfactory method discovered for adjusting listed sequential patterns.

## Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 40
14 March 1965
Tracer Release:Site A
( 1100 to 1200 CST)
Arc: 4; Azi(deg): 119.0
R(m): 3380; Drum No. 12

| Time (CST) | Dosage (Part.) |
|---|---|
| 1205:53 | |
| 07 | 10 |
| 09 | 211 |
| 11 | 235 |
| 13 | 359 |
| 1115:53 | 304 |
| 17 | 406 |
| 19 | 664 |
| 21 | 278 |
| 23 | 119 |
| 1125:53 | 148 |
| 27 | 45 |
| 29 | 6 |
| 31 | 2 |
| 33 | 1 |
| 1135:53 | 0 |
| 37 | 64 |
| 39 | 0 |
| 41 | 1030 |
| 43 | 1115 |
| 1145:53 | 512 |
| 47 | 168 |
| 49 | 486 |
| 51 | 106 |
| 53 | 110 |

Experiment No.40

Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.12(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1155:53 | 168 |
| 57 | 52 |
| 59 | 60 |
| 1201 | 13 |
| 03 | 293 |
| 1205:53 | 784 |
| 07 | 847 |
| 09 | 324 |
| 11 | 79 |
| 13 | 18 |
| 1215:53 | 5 |
| 17 | 4 |
| 19 | 5 |
| 21 | 3 |
| 23 | 2 |
| 1225:53 | 5 |
| 27 | 1 |
| 29 | 5 |

Experiment No. 40
14 March 1965
Tracer Release:Site A
( 1100 to 1200 CST)
Arc: 8; Azi(deg): 138.7
R(m): 3320; Drum No. 10

| Time (CST) | Dosage (Part.) |
|---|---|
| 1134:07 | |
| 36 | 225 |
| 38 | 704 |
| 40 | 145 |
| 42 | 168 |
| 1144:07 | 5 |
| 46 | 0 |
| 48 | 0 |
| 50 | 5 |

Experiment No. 40
14 March 1965
Tracer Release:Site A
(1100 to 1200 CST)
Arc: 3; Azi(deg):119.7
R(m): 6410; Drum No. 6

| Time (CST) | Dosage (Part.) |
|---|---|
| 1113:15 | |
| 15 | 7 |
| 17 | 44 |
| 19 | 96 |
| 21 | 622 |
| 1123:15 | 700 |
| 25 | 914 |
| 27 | 518 |
| 29 | 316 |
| 31 | 389 |
| 1133:15 | 292 |
| 35 | 64 |
| 37 | 17 |
| 39 | 6 |
| 41 | 1 |
| 1143:15 | 7 |
| 45 | 45 |
| 47 | 238 |
| 49 | 427 |
| 51 | 427 |
| 1153:15 | 314 |
| 55 | 147 |
| 57 | 460 |
| 59 | 262 |
| 1201 | 24 |

Experiment No. 40

Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 8(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 1203:15 | 13 |
| 05 | 6 |
| 07 | 4 |
| 09 | 33 |
| 11 | 46 |
| 1213:15 | 115 |
| 15 | 184 |
| 17 | 64 |
| 19 | 26 |
| 21 | 0 |
| 1223:15 | 2 |
| 25 | 2 |
| 27 | 2 |
| 29 | 1 |
| 31 | 2 |
| 1233:15 | 3 |
| 35 | 3 |
| 37 | 0 |
| 39 | 2 |
| 41 | 3 |
| 1243:15 | 1 |
| 45 | 15 |

## Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 40
14 March 1965
Tracer Release:Site A
( 1100 to 1200 CST)
Arc: 3; Azi(deg): 128.5
R(m): 6670; Drum No. 7

| Time (CST) | Dosage (Part.) |
|---|---|
| 1126:12 | |
| 28 | 7 |
| 30 | 47 |
| 32 | 245 |
| 34 | 308 |
| 1136:12 | 288 |
| 38 | 6 |
| 40 | 130 |
| 42 | 267 |
| 44 | 493 |
| 1146:12 | 571 |
| 48 | 141 |

Experiment No. 41
15 March 1965
Tracer Release:Site A
(2050 to 2150 CST)
Arc: 1; Azi(deg): 110.9
R(m): 740 ; Drum No. 8

| Time (CST) | Dosage (Part.) |
|---|---|
| 2153:30 | |
| 54 | 9 |
| 55 | 27 |
| 56 | 43 |
| 57 | 134 |
| 2158:30 | 238 |
| 59 | 671 |
| 2200 | 604 |
| 01 | 618 |
| 02 | 781 |
| 2203:30 | 89 |
| 04 | 838 |
| 05 | 753 |
| 06 | 909 |
| 07 | 596 |
| 2208:30 | 689 |
| 09 | 547 |
| 10 | 746 |
| 11 | 753 |
| 12 | 405 |
| 2213:30 | 180 |
| 14 | 99 |
| 15 | 145 |
| 16 | 288 |
| 17 | 222 |
| 2218:30 | 88 |
| 19 | 18 |
| 20 | 6 |

Experiment No. 41
15 March 1965
Tracer Release:Site A
(2050 to 2150 CST)
Arc: 1; Azi(deg): 143.6
R(m): 670; Drum No. 1

| Time (CST) | Dosage (Part.) |
|---|---|
| 2139:00 | |
| 40 | 6 |
| 41 | 3 |
| 42 | 17 |
| 43 | 255 |
| 2144:00 | 774 |
| 45 | 252 |
| 46 | 396 |
| 47 | 15000 |
| 48 | 17400 |
| 2149:00 | 20000 |
| 50 | 21600 |
| 51 | 20800 |
| 52 | 22200 |
| 53 | 18800 |
| 2154:00 | 21000 |
| 55 | 16000 |
| 56 | 22400 |
| 57 | 13800 |
| 58 | 18000 |
| 2159:00 | 15000 |
| 2200 | 15800 |
| 01 | 16200 |
| 02 | 16800 |
| 03 | 17200 |
| 2204:00 | 13800 |
| 05 | 14400 |
| 06 | 14600 |
| 07 | 20000 |
| 08 | 18000 |
| 2209:00 | 17600 |
| 10 | 19000 |
| 11 | 14200 |
| 12 | 13800 |

Experiment No. 41
15 March 1965
Tracer Release:Site A
(2050 to 2150 CST)
Arc: 2; Azi(deg): 160.2
R(m): 3180; Drum No. 12[F]

| Time (CST) | Dosage (Part.) |
|---|---|
| 2149:37 | |
| 51 | 11 |
| 53 | 43 |
| 55 | 157 |
| 57 | 346 |
| 2159:37 | 696 |
| 2201 | 1306 |
| 03 | 1150 |
| 05 | 1910 |
| 07 | 1811 |
| 2209:37 | 1640 |
| 11 | 1953 |
| 13 | 1647 |
| 15 | 1839 |
| 17 | 1374 |
| 2219:37 | 881 |
| 21 | 849 |
| 23 | 1186 |
| 25 | 1380 |
| 27 | 1147 |
| 2229:37 | 1192 |
| 31 | 985 |
| 33 | 137 |

Experiment No. 41
15 March 1965
Tracer Release:Site A
(2050 to 2150 CST)
Arc: 3; Azi(deg): 113.5
R(m): 6410; Drum No.4[F]

| Time (CST) | Dosage (Part.) |
|---|---|
| 2100:00 | |
| 02 | (216) |
| 04 | ( 17) |
| 06 | ( 7) |
| 08 | ( 26) |
| 2110:00 | ( 10) |
| 12 | ( 19) |
| 14 | ( 32) |
| 16 | ( 32) |
| 18 | ( 27) |
| 2120:00 | ( 9) |
| 22 | ( 11) |
| 24 | ( 22) |
| 26 | ( 13) |
| 28 | ( 9) |
| 2130:00 | ( 12) |
| 32 | ( 6) |
| 34 | ( 21) |
| 36 | ( 16) |
| 38 | ( 26) |
| 2140:00 | ( 14) |
| 42 | ( 11) |
| 44 | ( 6) |
| 46 | ( 5) |
| 48 | ( 13) |
| 2150:00 | ( 14) |
| 52 | ( 4) |
| 54 | ( 8) |
| 56 | ( 12) |
| 58 | ( 11) |

Experiment No. 41

Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.4[F](cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2200:00 | ( 9) |
| 02 | ( 6) |
| 04 | ( 3) |
| 06 | ( 5) |
| 08 | ( 12) |
| 2210:00 | ( 6) |
| 12 | ( 26) |
| 14 | ( 23) |
| 16 | ( 16) |
| 18 | ( 19) |
| 2220:00 | ( 12) |
| 22 | ( 18) |
| 24 | ( 6) |
| 26 | ( 12) |
| 28 | ( 6) |
| 2230:00 | ( 13) |
| 32 | ( 15) |
| 34 | ( 14) |
| 36 | ( 11) |
| 38 | ( 16) |
| 2240:00 | ( 10) |
| 42 | ( 17) |
| 44 | ( 9) |
| 46 | ( 18) |
| 48 | ( 14) |
| 2250:00 | ( 15) |
| 52 | ( 24) |
| 54 | ( 30) |
| 56:00 | ( 57) |
| 56:50 | ( 15) |

[F]Total dosage adjusted (Table IV), but no satisfactory method discovered for adjusting listed, sequential patterns.

[F]Sequential dosage patterns listed in parentheses; measured dosage considered to be entirely contamination.

# Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 42
16 March 1965
Tracer Release:Site B
(2030 to 2130 CST)
Arc: 4; Azi(deg): 307.2
R(m): 1930 ; Drum No. 2

| Time (CST) | Dosage (Part.) |
|---|---|
| 2052:18 | |
| 53 | 7 |
| 54 | 13 |
| 55 | 36 |
| 56 | 17 |
| 2057:18 | 5 |
| 58 | 8 |
| 59 | 7 |
| 2100 | 4 |
| 01 | 1 |
| 2102:18 | 5 |
| 03 | 12 |
| 04 | 1 |
| 05 | 6 |
| 06 | 191 |
| 2107:18 | 232 |
| 08 | 69 |
| 09 | 32 |
| 10 | 26 |
| 11 | 24 |
| 2112:18 | 53 |
| 13 | 57 |
| 14 | 85 |
| 15 | 111 |
| 16 | 438 |
| 2117:18 | 601 |
| 18 | 615 |
| 19 | 522 |
| 20 | 489 |
| 21 | 438 |

Experiment No. 42
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.2(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2122:18 | 648 |
| 23 | 611 |
| 24 | 457 |
| 25 | 373 |
| 26 | 471 |
| 2127:18 | 690 |
| 28 | 811 |
| 29 | 979 |
| 30 | 1035 |
| 31 | 1095 |
| 2132:18 | 1128 |
| 33 | 997 |
| 34 | 1216 |
| 35 | 1063 |
| 36 | 629 |
| 2137:18 | 1314 |
| 38 | 680 |
| 39 | 634 |
| 40 | 326 |
| 41 | 238 |
| 2142:18 | 66 |
| 43 | 14 |

Experiment No. 42
16 March 1965
Tracer Release:Site B
(2030 to 2130 CST)
Arc: 4; Azi(deg): 323.4
R(m): 1940; Drum No. 4[t]

| Time (CST) | Dosage (Part.) |
|---|---|
| 2006:16 | |
| 08:17 | (389) |
| 10 | (102) |
| 12 | (115) |
| 14 | (112) |
| 2016:17 | (682) |
| 18 | (187) |
| 20 | ( 53) |
| 22 | (232) |
| 24 | ( 13) |
| 2026:17 | ( 26) |
| 28 | ( 17) |
| 30 | ( 6) |
| 32 | ( 49) |
| 34 | ( 25) |
| 2036:17 | ( 6) |
| 38 | ( 63) |
| 40 | ( 19) |
| 42 | ( 15) |
| 44 | ( 15) |
| 2046:17 | ( 29) |
| 48 | ( 35) |
| 50 | ( 41) |
| 52 | ( 39) |
| 54 | ( 81) |
| 2056:17 | ( 29) |
| 58 | ( 18) |
| 2100 | ( 37) |
| 02 | ( 14) |
| 04 | ( 17) |

Experiment No. 42
Tracer Release:Site
( to CST)
Arc: Azi(deg):
R(m): ; Drum No.4[t](cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2106:17 | ( 11) |
| 08 | ( 29) |
| 10 | ( 7) |
| 12 | ( 17) |
| 14 | ( 28) |
| 2116:17 | ( 10) |
| 18 | ( 5) |
| 20 | ( 17) |
| 22 | ( 64) |
| 24 | (103) |
| 2126:17 | ( 30) |
| 28 | ( 8) |
| 30 | ( 28) |
| 32 | ( 23) |
| 34 | ( 8) |
| 2136:17 | ( 13) |
| 38 | ( 9) |
| 40 | ( 34) |
| 42 | ( 5) |
| 44 | ( 15) |
| 2146:17 | ( 8) |
| 48 | ( 1) |
| 50:17 | ( 6) |
| 52:14 | ( 9) |

Experiment No. 42
19 March 1965
Tracer Release:Site B
(2030 to 2130 CST)
Arc: 5; Azi(deg): 296.1
R(m): 4270; Drum No. 10

| Time (CST) | Dosage (Part.) |
|---|---|
| 2014:06 | |
| 16 | 12 |
| 18 | 5 |
| 20 | 14 |
| 22 | 1 |
| 2024:06 | 0 |
| 26 | 2 |
| 28 | 1 |
| 30 | 1 |
| 32 | 1 |
| 2034:06 | 0 |
| 36 | 0 |
| 38 | 0 |
| 40 | 0 |
| 42 | 19 |
| 2044:06 | 232 |
| 46 | 544 |
| 48 | 713 |
| 50 | 823 |
| 52 | 1387 |

Experiment No. 42
Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No. 10(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2054:06 | 1484 |
| 56 | 1238 |
| 58 | 1238 |
| 2100 | 953 |
| 02 | 991 |
| 2104:06 | 1419 |
| 06 | 1614 |
| 08 | 1354 |
| 10 | 1328 |
| 12 | 1354 |
| 2114:06 | 810 |
| 16 | 745 |
| 18 | 525 |
| 20 | 285 |
| 22 | 121 |
| 2124:06 | 19 |
| 26 | 10 |
| 28 | 10 |

[t] Sequential dosage patterns listed in parentheses; measured dosage considered to be entirely contamination.

# Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 42
16 March 1965
Tracer Release:Site B
( 2030 to 2130 CST)
Arc: 6 ; Azi(deg): 299.8
R(m): 7610 ; Drum No. 5

| Time (CST) | Dosage (Part.) |
|---|---|
| 2048:02 | |
| 50 | 7 |
| 52 | 19 |
| 54 | 16 |
| 56 | 22 |
| 2058:02 | 29 |
| 2100 | 25 |
| 02 | 24 |
| 04 | 45 |
| 06 | 63 |
| 2108:02 | 43 |
| 10 | 38 |
| 12 | 211 |
| 14 | 226 |
| 16 | 444 |
| 2118:02 | 557 |
| 20 | 602 |
| 22 | 811 |
| 24 | 612 |
| 26 | 597 |
| 2128:02 | 383 |
| 30 | 207 |
| 32 | 46 |
| 34 | 41 |
| 36 | 28 |
| 2138:02 | 14 |
| 40 | 11 |
| 42 | 4 |

Experiment No. 42
16 March 1965
Tracer Release:Site B
( 2030 to 2130 CST)
Arc: 6 ; Azi(deg): 308.5
R(m): 8230; Drum No. 7[U]

| Time (CST) | Dosage (Part.) |
|---|---|
| 2133:59 | |
| 35 | 7 |
| 37 | 19 |
| 39 | 17 |
| 41 | 13 |
| 2143:59 | 15 |
| 45 | 11 |
| 47 | 21 |
| 49 | 14 |
| 51 | 6 |
| 2153:59 | 2 |
| 55 | 3 |

Experiment No.42
16 March 1965
Tracer Release:Site B
( 2030 to 2130 CST)
Arc: 6; Azi(deg): 318.9
R(m): 7640; Drum No. 8[V]

| Time (CST) | Dosage (Part.) |
|---|---|
| 2115:40 | |
| 17 | (13) |
| 19 | ( 5) |
| 21 | ( 6) |
| 23 | ( 3) |
| 2125:40 | (14) |
| 27 | (11) |

Experiment No. 43
17 March 1965
Tracer Release:Site A
( 2000 to 2100 CST)
Arc: 1; Azi(deg): 105.7
R(m): 770; Drum No. 1

| Time (CST) | Dosage (Part.) |
|---|---|
| 2001:04 | |
| 02 | 974 |
| 03 | 7540 |
| 04 | 15200 |
| 05 | 9700 |
| 2006:04 | 13400 |
| 07 | 12400 |
| 08 | 7400 |
| 09 | 8200 |
| 10 | 17600 |
| 2011:04 | 17200 |
| 12 | 10300 |
| 13 | 6300 |
| 14 | 2018 |
| 15 | 1901 |
| 2016:04 | 881 |
| 17 | 345 |
| 18 | 14 |
| 19 | 4 |
| 20 | 22 |
| 2021:04 | 113 |
| 22 | 2626 |
| 23 | 624 |
| 24 | 2083 |
| 25 | 1254 |

Experiment No. 43

Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.1(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2026:04 | 1729 |
| 27 | 2414 |
| 28 | 834 |
| 29 | 2465 |
| 30 | 1971 |
| 2031:04 | 1114 |
| 32 | 2153 |
| 33 | 2721 |
| 34 | 2344 |
| 35 | 2330 |
| 2036:04 | 2732 |
| 37 | 1184 |
| 38 | 438 |
| 39 | 760 |
| 40 | 1407 |
| 2041:04 | 1654 |
| 42 | 2409 |
| 43 | 2624 |
| 44 | 3453 |
| 45 | 1548[illegible] |
| 2046:04 | 2036 |
| 47 | 2866 |
| 48 | 3169 |
| 49 | 3332 |
| 50 | 2703 |

Experiment No. 43

Tracer Release:Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.1(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2051:04 | 2913 |
| 52 | 3542 |
| 53 | 3262 |
| 54 | 4078 |
| 55 | 3099 |
| 2056:04 | 3658 |
| 57 | 3775 |
| 58 | 3332 |
| 59 | 2447 |
| 2100 | 2144 |
| 2101:04 | 3192 |
| 02 | 3448 |
| 03 | 1058 |
| 04 | 75 |
| 05 | 19 |
| 2106:04 | 12 |
| 07 | 6 |
| 08 | 12 |
| 09 | 10 |
| 10 | 11 |
| 2111:04 | 6 |
| 12:04 | 7 |
| 12:59 | 8 |

[U]Plastic rain cover blew over intake orifice at an unknown time. Total dosaged was adjusted (Table IV), but no satisfactory method discovered for adjusting listed, sequential patterns.

[V]Sequential dosage patterns listed in parentheses; measured dosage considered to be entirely contamination.

# Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 43
17 March 1965
Tracer Release: Site A
(2000 to 2100 CST)
Arc: 4; Azi(deg): 119.9
R(m): 740; Drum No. 2

| Time (CST) | Dosage (Part.) |
|---|---|
| 2000:15 | |
| 01 | 34 |
| 02 | 9040 |
| 03 | 2810 |
| 04 | 3215 |
| 2005:15 | 2860 |
| 06 | 2353 |
| 07 | 729 |
| 08 | 418 |
| 09 | 5520 |
| 2010:15 | 24800 |
| 11 | 5040 |
| 12 | 1137 |
| 13 | 337 |
| 14 | 2960 |
| 2015:15 | 250 |
| 16 | 67 |
| 17 | 71 |
| 18 | 5 |
| 19 | 5 |
| 2020:15 | 0 |
| 21 | 2819 |
| 22 | 4380 |
| 23 | 4078 |
| 24 | 4893 |
| 2025:15 | 3262 |
| 26 | 1412 |
| 27 | 1789 |
| 28 | 2353 |
| 29 | 3285 |

Experiment No. 43
Tracer Release: Site
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.2(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2030:15 | 2260 |
| 31 | 2819 |
| 32 | 3260 |
| 33 | 3192 |
| 34 | 9080 |
| 2035:15 | 14160 |
| 36 | 12040 |
| 37 | 7600 |
| 38 | 9360 |
| 39 | 20600 |
| 2040:15 | 2200 |
| 41 | 11440 |
| 42 | 12280 |
| 43 | 12360 |
| 44 | 27000 |
| 2045:15 | 9320 |
| 46 | 5360 |
| 47 | 6960 |
| 48 | 21800 |
| 49 | 20200 |
| 2050:15 | 11600 |
| 51 | 13240 |
| 52 | 19400 |
| 53 | 20400 |
| 54 | 24800 |
| 2055:15 | 14680 |
| 56 | 8880 |
| 57 | 4840 |
| 58 | 581 |
| 59 | 347 |

Experiment No. 43
Tracer Release:
( to CST)
Arc: ; Azi(deg):
R(m): ; Drum No.2(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2100:15 | 201 |
| 01 | 3440 |
| 02 | 3320 |
| 03 | 109 |
| 04 | 38 |
| 2105:15 | 16 |
| 06 | 14 |
| 07 | 13 |
| 08 | 9 |
| 09 | 4 |
| 2110:15 | 8 |
| 11 | 7 |
| 12 | 8 |
| 13 | 2 |
| 14 | 4 |
| 2115:15 | 7 |
| 16 | 3 |
| 17 | 7 |
| 18 | 7 |
| 19:15 | 1 |
| 2120:10 | 8 |

Experiment No. 43
17 March 1965
Tracer Release: Site A
(2000 to 2100 CST)
Arc: 2; Azi(deg): 101.6
R(m): 3150; Drum No. 10

| Time (CST) | Dosage (Part.) |
|---|---|
| 2006:57 | |
| 08 | 314 |
| 10 | 681 |
| 12 | 929 |
| 14 | 1420 |
| 2016:57 | 3069 |
| 18 | 2790 |
| 20 | 1420 |
| 22 | 426 |
| 24 | 11 |
| 2026:57 | 710 |
| 28 | 259 |
| 30 | 518 |
| 32 | 155 |
| 34 | 11 |
| 2036:57 | 31 |
| 38 | 7 |
| 40 | 2 |
| 42 | 1 |
| 44 | 3 |
| 2046:57 | 3 |
| 48 | 6 |
| 50 | 60 |
| 52 | 194 |
| 54 | 421 |

Experiment No. 43
Tracer Release: Site
( CST)
Arc: ; Azi(deg):
R(m): ; Drum No.10(cont)

| Time (CST) | Dosage (Part.) |
|---|---|
| 2055:57 | 356 |
| 58 | 356 |
| 2100 | 257 |
| 02 | 457 |
| 04 | 972 |
| 2106:57 | 810 |
| 08 | 875 |
| 10 | 486 |
| 12 | 14 |
| 14 | 5 |
| 2110:57 | 4 |
| 18 | 6 |
| 20 | 1 |
| 22 | 5 |
| 24 | 8 |
| 2126:57 | 7 |
| 28 | 4 |
| 30 | 1 |
| 32 | 8 |
| 34:57 | 0 |
| 2136:53 | 1 |
| 37:05 | 9 |

Experiment No. 43
17 March 1965
Tracer Release: Site A
(2000 to 2100 CST)
Arc: 2; Azi(deg): 119.0
R(m): 3350; Drum No. 12

| Time (CST) | Dosage (Part.) |
|---|---|
| 2027:28 | |
| 29 | 339 |
| 31 | 51 |
| 33 | 432 |
| 35 | 1093 |
| 2037:28 | 1512 |
| 39 | 1385 |
| 41 | 1077 |
| 43 | 902 |
| 45 | 187 |
| 2047:28 | 90 |
| 49 | 372 |
| 51 | 576 |
| 53 | 859 |
| 55 | 419 |
| 2057:28 | 46 |
| 59 | 22 |
| 2101 | 6 |
| 03 | 0 |
| 05 | 3 |
| 2107:28 | 1 |
| 09 | 3 |
| 11 | 2 |
| 13 | 1 |
| 15 | 0 |
| 2117:28 | 11 |

## Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 43
17 March 1965
Tracer Release:Site A
(2000 to 2130 CST)
Arc: 3; Azi(deg): 84.7
R(m): 7240; Drum No. 4[W]

| Time (CST) | Dosage (Part.) |
|---|---|
| 2019:00 | |
| 21 | ( 8) |
| 23 | ( 8) |
| 25 | (11) |
| 27 | ( 5) |
| 2029:00 | ( 5) |
| 31 | (11) |
| 33 | ( 9) |
| 35 | (11) |
| 37 | ( 5) |
| 2039:00 | (11) |
| 41 | (27) |

Experiment No. 43
17 March 1965
Tracer Release:Site A
(2000 to 2130 CST)
Arc: 3; Azi(deg): 97.8
R(m): 6910; Drum No. 8

| Time (CST) | Dosage (Part.) |
|---|---|
| 2012:23 | |
| 14 | 14 |
| 16 | 30 |
| 18 | 15 |
| 20 | 2 |
| 2022:23 | 187 |
| 24 | 488 |
| 26 | 253 |
| 28 | 186 |
| 30 | 31 |
| 2032:23 | 4 |
| 34 | 2 |
| 36 | 0 |
| 38 | 3 |
| 40 | 0 |
| 2042:23 | 0 |
| 44 | 1 |
| 46 | 1 |
| 48 | 2 |
| 50 | 0 |
| 2052:23 | 1 |
| 54 | 1 |
| 56 | 0 |
| 58 | 1 |
| 2100 | 1 |
| 2102:23 | 0 |
| 04 | 0 |
| 06 | 0 |
| 08 | 164 |
| 10 | 432 |
| 2112:23 | 288 |
| 14 | 73 |
| 16 | 13 |

Experiment No. 43
17 March 1965
Tracer Release:Site A
(2000 to 2130 CST)
Arc: 3; Azi(deg): 116.7
R(m): 6410; Drum No. 7

| Time (CST) | Dosage (Part.) |
|---|---|
| 2027:46 | |
| 29 | 12 |
| 31 | 71 |
| 33 | 107 |
| 35 | 370 |
| 2037:46 | 571 |
| 39 | 365 |
| 41 | 232 |
| 43 | 518 |
| 45 | 292 |
| 2047:46 | 270 |
| 49 | 139 |
| 51 | 175 |
| 53 | 142 |
| 55 | 40 |
| 2057:46 | 10 |

[W]Sequential dosage patterns listed in parentheses; measured dosage considered to be entirely contamination.

TABLE 6. TOTAL VERTICAL DISTRIBUTION OF ROTOROD DOSAGES

Symbols

| | | |
|---|---|---|
| Z (ft) | : | Height in whole feet of sampler above the surface |
| Dosage (Part) | : | Number of (fluorescent) particles |
| X, Part/$m^3$ | : | Equivalent concentration, particles per cubic meter |
| Site A | : | Forest Park |
| Site B | : | Roof of the Knights of Columbus Building |

Preceding page blank

# Table 6 (continued). VERTICAL ROTOROD DOSAGES

Experiment No. [illegible]
[illegible]
Tracer Release: [illegible]
([illegible] CST)
Azimuth: [illegible]
Range: [illegible]

| Z(ft) | Time On (CST) | Time Off (CST) | Dosage (Part.) | χ Part./m³ |
|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | 1,8[illegible] | 799 |
| [illegible] | [illegible] | [illegible] | [illegible]1,1[illegible] | [illegible]8,647 |
| [illegible] | [illegible] | [illegible] | [illegible]9,1[illegible] | [illegible]27,076 |
| [illegible] | [illegible] | [illegible] | 9[illegible],9[illegible] | [illegible]19,899 |

Experiment No. 2[illegible]
[illegible] 1964
Tracer Release: Site B
([illegible] to 11[illegible] CST)
Azimuth: [illegible]
Range: 1480 m

| Z(ft) | Time On (CST) | Time Off (CST) | Dosage (Part.) | χ Part./m³ |
|---|---|---|---|---|
| 7[illegible] | 102[illegible] | 1199 | 9,0[illegible] | 6,503 |
| 557 | 1026 | 1145 | 6,65[illegible] | 5,694 |
| 1[illegible] | 1027 | 1142 | 5,068 | 3,414 |
| 6 | 1030 | 1135 | 1,330 | 890 |

Experiment No. 34
19 October 1964
Tracer Release: Site A
(1945 to 2045 CST)
Azimuth: 139.3°
Range: 3380 m

| Z(ft) | Time On (CST) | Time Off (CST) | Dosage (Part.) | χ Part./m³ |
|---|---|---|---|---|
| 851 | 1947 | 2111 | 2,206 | 1,462 |
| 353 | 1948 | 2107 | 12,432 | 8,237 |
| 6 | 1949 | 2102 | 12,576 | 8,333 |

Experiment No. 36
7 March 1965
Tracer Release: Site A
(1230 to 1330 CST)
Azimuth: 163.6°
Range: 2610 m

| Z(ft) | Time On (CST) | Time Off (CST) | Dosage (Part.) | χ Part./m³ |
|---|---|---|---|---|
| 812 | 1221 | 1402 | 5,188 | 3,438 |
| 368 | 1226 | 1356 | 4,504 | 2,984 |
| 6 | 1227 | 1345 | 8,137 | 5,390 |

Experiment No. 25
10 June 1964
Tracer Release: Site A
(1035 to 1135 CST)
Azimuth: [illegible]
Range: 2790 m

| Z(ft) | Time On (CST) | Time Off (CST) | Dosage (Part.) | χ Part./m³ |
|---|---|---|---|---|
| 550 | 1031 | 1156 | 796 | 525 |
| 6 | 1035 | 1155 | 3,105 | 2,051 |

Experiment No. 26
11 June 1964
Tracer Release: Site B
(1035 to 1135 CST)
Azimuth: 291.8°
Range: 9820 m

| Z(ft) | Time On (CST) | Time Off (CST) | Dosage (Part.) | χ Part./m³ |
|---|---|---|---|---|
| 600 | 1044 | 1226 | 75 | 50 |
| 6 | 1050 | 1220 | 520 | 345 |

Experiment No. 39
13 March 1965
Tracer Release: Site A
(1220 to 1320 CST)
Azimuth: 092.4
Range: 3130 m

| Z(ft) | Time On (CST) | Time Off (CST) | Dosage (Part.) | χ Part./m³ |
|---|---|---|---|---|
| 1044 | 1220 | 1355 | 2,982 | 1,979 |
| 544 | 1224 | 1351 | 3,053 | 2,026 |
| 6 | 1228 | 1356 | 4,074 | 2,704 |

Experiment No. 28
11 October 1964
Tracer Release: Site B
(1105 to 1205 CST)
Azimuth: 331.0°
Range: 1930 m

| Z(ft) | Time On (CST) | Time Off (CST) | Dosage (Part.) | χ Part./m³ |
|---|---|---|---|---|
| 847 | 1049 | 121[illegible] | 7,990 | 5,3[illegible] |
| 438 | 1052 | 1205 | 8,856 | 5,878 |
| 6 | 1115 | 1216 | 9,139 | [illegible],066 |

Experiment No. 30
16 October 1964
Tracer Release: Site B
(2000 to 2100 CST)
Azimuth: 358.6°
Range: 1480 m

| Z(ft) | Time On (CST) | Time Off (CST) | Dosage (Part.) | χ Part./m³ |
|---|---|---|---|---|
| 998 | 1950 | 2135 | 513 | 340 |
| 499 | 1955 | 2132 | 1,198 | 795 |
| 6 | 1956 | 2125 | 18 | 12 |

[a] No adjustments in the measured dosages were made, but analysis of all the experimental data indicates that the values for the two upper levels and the two lower levels may be too high and too low, respectively.

## TETROON OBSERVATIONS

Tetroons were normally released from the tracer dissemination site 15 minutes after the beginning of dissemination. They were ballasted to float either at 500, 1000, or 1500 feet above the surface. Equipment failure resulted in loss of some data.

The transponder signal was tracked on the Plan Position Indicator scope of the WSR-57 radar at Lambert Field. The azimuth in degrees and range in nautical miles (n.m.) of the tetroon from this site were usually recorded at 2-minute intervals. Because the signal was received as a "blip" of defined length and width, either the mean range and the mean azimuth or the mean range and two azimuths (representing the edges of the blip) were reported. When the tetroon was very close to the radar site, the signal was displayed as a blip so large that a mean azimuth and range could only be estimated. The accuracies of units reported in Table 7 for each tetroon release are those measured.

# Table 7. TETROON OBSERVATIONS

Experiment No. 4
17 July 1963
Tracer Release:Site A
(1130 to 1230 CST)
Ascension Start:1145 CST
Tetroon Flight Level:1000 ft

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 1145 | 137.0 | 142.5 | 9.0 |
| -- | Transponder signal lost | | |
| 1208 | 123.8 | 137.5 | 9.50 |
| 10 | 118.6 | 126.5 | 9.40 |
| -- | Transponder signal lost | | |
| 1222 | 104.5 | 111.5 | 7.70 |
| 24 | 102.7 | 108.5 | 10.90 |
| 26 | 101.5 | 106.7 | 11.10 |
| 28 | 099.5 | 105.5 | 11.50 |
| 30 | 098.4 | 103.0 | 12.00 |
| 1232 | 094.5 | 101.0 | 12.30 |
| 34 | 093.5 | 98.5 | 12.60 |
| 36 | 091.6 | 95.7 | 12.95 |
| 38 | 088.5 | 93.7 | 13.40 |
| 40 | 086.4 | 92.0 | 13.90 |
| 1242 | 082.6 | 90.3 | 14.20 |
| 44 | 081.5 | 89.5 | 14.60 |
| 46 | 080.5 | 87.0 | 15.25 |
| 48 | 078.7 | 87.4 | 15.60 |
| 50 | 079.0 | 84.5 | 16.10 |
| -- | Transponder signal lost | | |
| 1254 | 077.5 | 82.0 | 16.90 |

Experiment No. 4
18 July 1963
Tracer Release:Site B
(1104 to 1204 CST)
Ascension Start:1130 CST
Tetroon Flight Level:1000 ft

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 1135 | 142.0 | 160.0 | 11.20 |
| 37 | 134.5 | 153.0 | 11.10 |
| 39 | 134.5 | 150.5 | 11.00 |
| 41 | 135.5 | 152.5 | 11.00 |
| 43 | 128.5 | 150.0 | 10.90 |
| 1145 | 134.5 | 144.4 | 10.90 |
| 47 | 133.0 | 146.0 | 11.00 |
| 49 | 132.5 | 143.0 | 10.90 |
| 51 | 131.0 | 143.0 | 10.85 |
| 53 | 127.0 | 143.5 | 10.75 |
| 1155 | 129.5 | 140.7 | 10.45 |
| 57 | 130.5 | 141.5 | 10.45 |
| 59 | 128.5 | 141.0 | 10.35 |
| 1201 | 121.5 | 138.0 | 10.20 |
| 03 | 117.0 | 138.5 | 10.05 |
| 1205 | 126.0 | 135.5 | 10.00 |
| 07 | 122.5 | 137.5 | 9.90 |
| -- | Transponder signal lost | | |
| 1215 | 114.5 | 138.0 | 9.10 |
| 17 | 122.2 | 129.3 | 8.90 |
| 1219 | 119.5 | 134.3 | 8.75 |
| 21 | 116.0 | 129.5 | 8.75 |
| 23 | 115.5 | 128.0 | 8.90 |
| -- | Transponder signal lost | | |
| 1227 | 114.0 | 128.5 | 8.50 |
| 1229 | 115.5 | 124.5 | 8.35 |
| 31 | 114.0 | 125.5 | 8.20 |
| 33 | 114.0 | 125.0 | - |
| 35 | 113.0 | - | 8.05 |
| -- | Transponder signal lost | | |
| 1243 | - | 121.5 | 7.90 |
| 45 | 099.5 | 110.5 | 7.80 |
| 47 | 088.0 | 103.0 | 7.80 |
| 49 | 086.5 | 104.5 | 7.70 |
| 51 | 092.0 | 104.5 | 7.55 |
| -- | Transponder signal lost | | |
| 1255 | 088.0 | 103.0 | 7.35 |
| 57 | 090.5 | 102.0 | 7.20 |

Experiment No. 6
21 July 1963
Tracer Release:Site B
(1130 to 1230 CST)
Ascension Start:1145 CST
Tetroon Flight Level:1000 ft

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 1147 | 144.4 | 149.4 | 11.45 |
| 49 | 145.0 | 150.8 | 11.10 |
| 51 | 145.2 | 150.2 | 10.85 |
| 53 | 144.9 | 150.2 | 10.45 |
| 55 | 145.4 | 149.5 | 10.20 |
| 1157 | 148.0 | 152.9 | 9.82 |
| 59 | 146.5 | 152.5 | 9.55 |
| 1201 | 146.8 | 153.9 | 9.20 |
| 03 | 147.9 | 153.5 | 8.80 |
| 05 | 149.0 | 154.6 | 8.50 |
| 1207 | 148.5 | 155.5 | 8.30 |
| 09 | 150.0 | 156.4 | 8.10 |
| 11 | 151.0 | 155.9 | 7.80 |
| 13 | 151.9 | 157.9 | 7.55 |
| 15 | 151.8 | 159.5 | 7.35 |
| 1217 | 153.8 | 159.5 | 7.10 |
| 19 | 154.1 | 161.2 | 6.85 |
| 21 | 156.0 | 162.6 | 6.60 |
| 23 | 157.4 | 166.5 | 6.35 |
| 25 | 159.0 | 167.0 | 6.20 |
| 1227 | 160.5 | 168.0 | 6.05 |
| 29 | 162.9 | 170.5 | 5.80 |
| 31 | 163.5 | 169.5 | 5.65 |
| 33 | 165.5 | 173.5 | 5.50 |
| 35 | 166.7 | 172.0 | 5.35 |
| 1237 | 164.1 | 177.4 | 5.15 |
| 39 | 170.0 | 179.5 | 5.00 |
| 41 | 172.5 | 185.0 | 4.95 |
| -- | Transponder signal lost | | |
| 1251 | 188.0 | 207.5 | 4.50 |
| 1253 | 190.0 | 205.6 | 4.45 |
| 55 | 194.5 | 203.5 | 4.34 |
| 57 | 198.6 | 204.8 | 4.30 |
| 59 | 201.8 | 209.3 | 4.12 |
| 1301 | 201.7 | 214.6 | 4.05 |
| 1303 | 206.0 | 222.0 | 3.95 |
| 05 | 208.5 | 222.0 | 3.90 |

Experiment No. 7
25 July 1963
Tracer Release:Site B
(1040 to 1140 CST)
Ascension Start:1110 CST
Tetroon Flight Level:1000 ft

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 1110 | 144.5 | 149.0 | 11.70 |
| 12 | 145.0 | 151.0 | 11.74 |
| 14 | 145.2 | 152.0 | 10.90 |
| 16 | 146.4 | 152.0 | 10.60 |
| 18 | 144.6 | 151.0 | 10.35 |
| 1120 | 144.5 | 151.7 | 10.00 |
| 22 | 144.6 | 151.3 | 9.70 |
| 24 | 144.2 | 150.6 | 9.35 |
| 26 | 143.9 | 151.1 | 9.04 |
| 28 | 145.5 | 152.1 | 8.55 |
| 1130 | 144.9 | 152.1 | 8.20 |
| 32 | 144.1 | 153.0 | 7.85 |
| 34 | 147.7 | 153.0 | 7.36 |
| 36 | 146.8 | 155.0 | 6.95 |
| 38 | 147.7 | 155.6 | 6.55 |
| 1140 | 152.0 | 158.3 | 6.20 |
| 42 | 151.5 | 162.3 | 6.00 |
| 44 | 151.4 | 161.7 | 5.65 |
| 46 | 151.6 | 161.4 | 5.35 |
| 48 | 152.0 | 165.7 | 5.05 |
| 1150 | 153.2 | 163.4 | 4.69 |
| 52 | 151.8 | 163.8 | 4.40 |
| 54 | 150.0 | 164.4 | 4.15 |
| 56 | 157.5 | - | 3.68 |
| 58 | 145.2 | 173.5 | 3.30 |
| 1200 | 172.0 | - | 2.90 |
| 02 | 149.0 | - | 2.50 |
| 04 | 149.0 | - | 2.35 |
| 06 | 149.0 | - | 2.00 |
| 08 | 149.0 | - | 1.90 |
| 1210 | - | 180.0 | 1.80 |
| 12 | - | 214.0 | 1.95 |
| -- | - | 257.0 | 2.00 |
| 16 | - | 247.0 | 2.30 |
| -- | Transponder signal lost | | |

Experiment No. 7 (cont.)

Tracer Release:Site
( to CST)
Ascension Start: CST
Tetroon Flight Level: ft

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 1230 | 303.0 | 316.5 | - |
| 32 | 271.0 | 293.5 | 4.25 |
| 34 | 275.0 | 287.7 | 4.40 |
| 36 | 275.0 | 293.0 | 4.70 |
| -- | Transponder signal lost | | |
| 1242 | 290.0 | 298.0 | 5.48 |
| 44 | 291.4 | 298.5 | 5.70 |
| 46 | 291.7 | 301.6 | 6.00 |
| 48 | 291.5 | 300.6 | 6.40 |
| 50 | 293.4 | 301.5 | 6.75 |
| 1252 | 294.0 | 301.8 | 7.15 |
| 54 | 295.5 | 303.0 | 7.60 |
| 56 | 296.0 | 303.5 | 8.15 |
| 58 | 296.4 | 303.8 | 8.40 |
| 1300 | 296.7 | 303.4 | 8.80 |
| 1302 | 297.0 | 303.5 | 9.15 |
| 04 | 297.0 | 303.5 | 9.70 |
| 06 | 297.6 | 304.5 | 10.10 |
| 08 | 298.6 | 305.6 | 10.30 |
| 10 | 301.6 | 305.7 | 10.60 |
| 1312 | 301.6 | 306.6 | 10.90 |
| 14 | 301.6 | 307.5 | 11.15 |
| 16 | 303.4 | 308.4 | 11.45 |
| 18 | 304.0 | 308.5 | 11.79 |
| 20 | 303.3 | 308.8 | 12.13 |
| 1322 | 304.0 | 309.8 | 12.49 |
| 24 | 303.3 | 309.5 | 12.80 |
| 26 | 304.0 | 309.5 | 13.20 |
| 28 | 304.6 | 310.4 | 13.60 |
| 30 | 303.5 | 310.0 | 14.04 |
| 1332 | 305.3 | 309.2 | 14.06 |
| 34 | 304.5 | 309.0 | 14.95 |
| 36 | 303.8 | 308.0 | 15.34 |
| 38 | 304.6 | 309.0 | 15.78 |
| 40 | 303.3 | 308.4 | 16.15 |

Experiment No. 8
26 July 1963
Tracer Release:SiteB
(1045 to 1145 CST)
Ascension Start:1100 CST
Tetroon Flight Level:1000 ft

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 1102 | 143.0 | 149.7 | 11.15 |
| 04 | 142.0 | 151.0 | 10.75 |
| 06 | 142.8 | 149.2 | 10.36 |
| 08 | 139.8 | 155.7 | 9.96 |
| 10 | 141.8 | 155.5 | 9.45 |
| 1112 | 138.4 | 150.2 | 9.05 |
| 14 | 137.7 | 152.5 | 8.57 |
| 16 | 139.5 | 147.8 | 8.12 |
| 18 | 136.8 | 147.3 | 7.60 |
| 20 | 138.2 | 148.0 | 7.63 |
| 1122 | 135.3 | 145.3 | 6.86 |
| 24 | 133.5 | 146.0 | 6.50 |
| 26 | 134.7 | 149.5 | 6.15 |
| 28 | 135.0 | 144.5 | 5.68 |
| 30 | 128.2 | 142.0 | 5.23 |
| 1132 | 120.5 | 147.0 | 4.78 |
| 34 | 126.8 | 141.5 | 4.30 |
| 36 | 097.8 | 157.2 | 3.89 |
| 38 | 111.0 | 139.5 | 3.53 |
| 40 | 103.0 | 127.0 | 3.19 |
| 1142 | - | - | 2.90 |
| 44 | - | - | 2.76 |
| 46 | - | - | 2.65 |
| 48 | 078.0[a] | - | 2.59 |
| 50 | 067.0[a] | - | 2.65 |
| 1152 | 063.5[a] | - | 2.85 |
| 54 | 032.5 | - | 3.10 |
| 56 | 051.0 | - | 3.35 |
| 58 | - | - | 3.49 |
| 1200 | 040.1 | 338.0 | 3.89 |
| 1202 | 013.0 | - | 4.35 |
| 04 | 025.0 | - | 4.78 |
| 06 | 007.8 | - | 5.10 |
| 08 | 004.0 | 019.2 | 5.58 |
| 10 | 003.0 | 015.2 | 6.05 |
| 1212 | 360.0 | 015.2 | 6.35 |
| -- | Transponder signal lost | | |
| 1216 | 002.0 | 004.5 | 7.20 |
| 18 | 001.0 | 003.0 | 7.55 |

[a]Approximate values.

# Table 7 (continued). TETROON OBSERVATIONS

Experiment No. 9
12 September 1963
Tracer Release:Site
(1115 to 1215 CST)
Ascension Start:1130 CST
Tetroon Flight Level: 1000 ft

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 1133 | 144.0 | - | 9.60 |
| 36 | 140.0 | 155.0 | 10.20 |
| 39 | 139.5 | 148.2 | 10.80 |
| 42 | 140.5 | 147.0 | 11.30 |
| 45 | 135.5 | 153.5 | 11.90 |
| 48 | 137.7 | 152.0 | 12.50 |
| 51 | 136.0 | 144.5 | 13.20 |
| 54 | 140.0 | 144.0 | 13.65 |
| 57 | 137.5 | 143.0 | 14.20 |
| 1200 | 137.6 | 143.5 | 14.65 |
| 03 | 137.5 | 142.8 | 15.35 |
| 06 | 137.0 | 143.0 | 16.05 |
| 09 | 136.5 | 146.5 | 16.75 |
| 12 | 136.0 | 142.5 | 17.40 |
| 15 | 136.0 | 146.8 | 18.15 |
| 18 | 136.5 | 143.5 | 18.70 |
| 21 | 136.5 | 143.5 | 19.50 |
| 24 | 136.0 | 141.5 | 20.00 |
| 27 | 136.8 | 143.5 | 20.80 |
| 30 | 136.6 | 143.6 | 21.40 |

Experiment No.

Tracer Release:Site
( to CST)
Ascension Start: CST
Tetroon Flight Level: ft

| Time (CST) | Azimuths (deg) | Range (nm) |
|---|---|---|

Experiment No.

Tracer Release:Site
( to CST)
Ascension Start: CST
Tetroon Flight Level: ft

| Time (CST) | Azimuths (deg) | Range (nm) |
|---|---|---|

Experiment No.11
16 September 1963
Tracer Release:Site B
(1100 to 1200 CST)
Ascension Start:1116 CST
Tetroon Flight Level:1000 ft

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 1118 | 141.7 | 149.6 | 11.10 |
| 21 | 143.5 | 149.3 | 10.40 |
| 24 | 141.4 | 148.8 | 9.90 |
| 27 | 140.3 | 147.6 | 9.40 |
| 30 | 138.8 | 147.7 | 8.75 |
| 1133 | 140.5 | 146.0 | 8.10 |
| 36 | 138.3 | 145.4 | 7.55 |
| 39 | 136.4 | 147.5 | 7.00 |
| 42 | 135.4 | 142.4 | 6.50 |
| 45 | 135.5 | 141.4 | 5.90 |
| 1148 | 132.5 | 141.0 | 5.30 |
| 51 | 129.2 | 137.6 | 4.65 |
| 54 | 118.5 | 137.4 | 4.15 |
| 57 | 108.6 | 137.4 | 3.55 |
| 1200 | 105.5 | 133.4 | 2.95 |
| 1203 | 090.0 | 125.0 | 2.30 |
| 06 | 078.0 | 119.0 | 1.90 |
| 09 | - | - | 1.70 |
| 12 | - | - | 1.70 |
| 15 | - | - | 1.90 |
| 1218 | 021.5[b] | - | 2.15 |
| 21 | 011.0[b] | - | 2.45 |
| 24 | 356.6 | 019.4 | 2.85 |
| 27 | 340.0 | 012.5 | 3.35 |
| 30 | 347.0 | 353.5 | 4.00 |

Experiment No. 12
17 September 1963
Tracer Release:Site B
(2000 to 2030 CST)
Ascension Start:2015 CST
Tetroon Flight Level:1000 ft

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 2019 | 145.6 | 149.8 | 11.35 |
| 21 | 143.5 | 150.8 | 11.00 |
| 24 | 144.0 | 151.1 | 10.45 |
| 27 | 142.0 | 151.3 | 9.95 |
| 30 | 143.9 | 150.8 | 9.50 |
| 2033 | 143.5 | 149.7 | 9.15 |
| 36 | 145.5 | 151.6 | 8.80 |
| 39 | 144.3 | 153.0 | 8.35 |
| 42 | 146.4 | 154.0 | 7.90 |
| 45 | 145.5 | 158.5 | 7.50 |
| 2048 | 150.0 | 158.2 | 7.10 |
| 51 | 152.5 | 159.2 | 6.75 |
| 54 | 155.0 | 162.5 | 6.35 |
| 57 | 156.5 | 167.5 | 6.00 |
| 2100 | 158.5 | 167.0 | 5.60 |
| 2103 | 162.2 | 169.5 | 5.20 |
| 06 | 166.0 | 172.5 | 4.90 |
| 09 | 169.4 | 180.1 | 4.60 |
| 12 | 174.5 | 182.6 | 4.25 |
| 15 | 169.8 | 192.2 | 4.00 |
| 2118 | 187.0 | 201.0 | 3.80 |
| 21 | 191.1 | 209.0 | 3.65 |
| 24 | 190.6 | 210.4 | 3.65 |
| 27 | 197.6 | 217.2 | 3.65 |
| 30 | 204.5 | 231.4 | 3.65 |
| 2133 | 211.5 | 234.5 | 3.75 |

Experiment No. 13
18 September 1963
Tracer Release:Site B
(2000 to 2100 CST)
Ascension Start:2015 CST
Tetroon Flight Level:1000 ft

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 2018 | 144.5 | 151.3 | 11.50 |
| 21 | 144.5 | 152.0 | 11.40 |
| 24 | 145.1 | 152.0 | 11.20 |
| 27 | 146.0 | 151.3 | 10.95 |
| 30 | 144.9 | 151.4 | 10.65 |
| 2033 | 144.0 | 151.5 | 10.35 |
| 36 | 143.5 | 151.1 | 10.00 |
| 39 | 143.5 | 151.4 | 9.65 |
| 42 | 142.5 | 149.9 | 9.25 |
| 45 | 142.0 | 149.0 | 8.90 |
| 2048 | 141.1 | 149.2 | 8.55 |
| 51 | 140.5 | 149.0 | 8.22 |
| 54 | 139.9 | 147.6 | 7.80 |
| 57 | 138.8 | 146.2 | 7.50 |
| 2100 | 137.6 | 145.2 | 7.10 |
| 2103 | 136.1 | 143.9 | 6.75 |
| 06 | 134.5 | 142.2 | 6.40 |
| 09 | 133.0 | 140.9 | 6.05 |
| 12 | 131.4 | 139.0 | 5.70 |
| 15 | 128.9 | 136.6 | 5.40 |
| 2118 | 126.0 | 133.5 | 5.05 |
| 21 | 122.5 | 130.6 | 4.70 |
| 24 | 120.2 | 130.6 | 4.45 |
| 27 | 116.4 | 123.6 | 4.15 |
| 30 | 111.0 | 121.0 | 3.90 |
| 2133 | 106.6 | 114.4 | 3.70 |
| 36 | 098.0 | 108.6 | 3.50 |
| 39 | 093.5 | [illegible] | 3.40 |
| 42 | 087.6 | [illegible] | 3.25 |
| 45 | 080.5 | 093.5 | 3.20 |

[b] Approximate values.

# Table 7 (continued). TETROON OBSERVATIONS

Experiment No. 14
1 April 1964
Tracer Release:Site B
(1200 to 1300 CST)
Ascension Start:1215 CST
Tetroon Flight Level:500 ft

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 1219 | 145.5 | 151.0 | 10.3 |
| 21 | 147.2 | 152.2 | 9.8 |
| 23 | 146.1 | 152.5 | 8.9 |
| 25 | 146.5 | 153.0 | 8.0 |
| 27 | 146.2 | 153.4 | 7.2 |
| 1229 | 145.5 | 152.6 | 6.5 |
| 31 | 143.5 | 151.6 | 5.7 |
| 33 | 138.7 | 143.6 | 4.6 |
| 35 | 129.3 | 140.0 | 3.9 |
| 37 | 108.4 | 134.3 | 3.3 |
| 1239 | 104.7 | 116.5 | 2.8 |
| 41 | 075.0 | 111.3 | 2.7 |
| 43 | 076.2 | - | 2.7 |
| 45 | 041.6 | 056.5 | 3.2 |
| 47 | 031.8 | 048.5 | 3.6 |
| 1249 | 028.6 | 039.1 | 4.2 |
| 51 | 021.4 | 029.6 | 4.9 |
| 53 | 016.6 | 024.5 | 5.7 |
| 55 | 015.5 | 021.4 | 6.4 |
| -- | | BAREP | |
| 1303 | 006.6 | 013.6 | 9.9 |
| 05 | 005.6 | 012.6 | 10.7 |
| 07 | 006.4 | 012.0 | 11.7 |
| 09 | 006.4 | 011.3 | 12.7 |
| 11 | 005.9 | 010.7 | 13.5 |

Experiment No. 14 (cont.)
Tracer Release:Site
( to CST)
Ascension Start: CST
Tetroon Flight Level:

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 1313 | 003.5 | 009.6 | 14.4 |
| 15 | 003.1 | 009.3 | 15.4 |
| 17 | 003.1 | 009.0 | 16.4 |
| 19 | 003.6 | 009.5 | 17.4 |
| 21 | 003.3 | 008.6 | 18.5 |
| 1323 | 002.3 | 007.7 | 19.4 |
| 25 | 002.5 | 008.2 | 20.5 |
| 27 | 002.3 | 008.0 | 21.4 |
| 29 | 004.3 | 007.7 | 22.5 |
| 31 | 003.6 | 007.8 | 23.4 |
| 1333 | 004.5 | 008.0 | 24.5 |
| 35 | 003.9 | 007.6 | 25.3 |
| 37 | 002.2 | 005.5 | 26.4 |
| 39 | 002.1 | 007.0 | 27.4 |
| 41 | 004.4 | 006.6 | 28.4 |
| 1343 | 002.0 | 007.1 | 29.2 |
| 45 | 002.4 | 007.5 | 30.3 |
| -- | | BAREP | |
| 1357 | 003.1 | 004.3 | 36.9 |

Experiment No. 16
7 April 1964
Tracer Release:Site B
(2048 to 2148 CST)
Ascension Start: 2100 CST
Tetroon Flight Level: 500 ft

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 2110 | 144.0 | 149.0 | 3.5 |
| 12 | 142.0 | 148.0 | 3.0 |
| 14 | 141.6 | 146.0 | 3.4 |
| 16 | 141.4 | 145.0 | 3.4 |
| 18 | 142.0 | 143.9 | 3.4 |
| 2120 | 141.0 | 143.5 | 3.0 |
| 22 | 141.2 | 143.0 | 3.0 |
| 24 | 141.0 | 143.5 | 3.0 |
| 26 | 141.0 | 143.9 | 3.3 |
| 28 | 141.0 | 143.0 | 3.3 |
| 2130 | 141.0 | 142.5 | 3.8 |
| 32 | 140.8 | 143.5 | 3.5 |
| 34 | 141.0 | 142.8 | 4.0 |
| 36 | 140.9 | 142.0 | 4.0 |
| 38 | 140.8 | 142.0 | 4.0 |
| 2140 | 139.9 | 141.3 | - |
| 42 | 141.0 | 143.5 | 4.0 |
| 44 | 142.4 | 143.5 | 3.0 |
| 46 | 138.9 | 141.2 | 3.0 |
| 48 | 140.0 | 141.0 | 3.0 |
| 2150 | 139.2 | 141.0 | 3.2 |
| 52 | 139.0 | 140.3 | 3.2 |
| 54 | 139.0 | 140.6 | 3.0 |
| 56 | 138.9 | 140.0 | - |

Experiment No. 20
3 June 1964
Tracer Release:Site A
(1040 to 1140 CST)
Ascension Start:1056 CST
Tetroon Flight Level:1000 ft

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 1117 | 136 | | 10.8 |
| 19 | 133 | 139 | 10.8 |
| 21 | 133 | 139 | 11.2 |
| 23 | 133 | 137 | 11.3 |
| 25 | 133 | 137 | 11.5 |
| 1127 | 132 | 137 | 11.7 |
| 29 | 132 | 137 | 12.0 |
| -- | Transponder signal lost | | |
| 1139 | 125 | 130 | 13.0 |
| 41 | 127 | 129 | 13.0 |
| 1143 | 124 | 130 | 13.1 |
| 45 | 124 | 129 | 13.2 |
| 47 | 122 | 128 | 13.3 |
| 49 | 121 | 127 | 13.3 |
| -- | Transponder signal lost | | |
| 1155 | 120 | 125 | 13.5 |
| 57 | 120 | 125 | 13.5 |
| 59 | 118 | 123 | 13.8 |
| 1201 | 117 | 119 | 14.0 |
| 03 | 117 | 120 | 14.2 |
| 1205 | 117 | 122 | 14.6 |
| 07 | 118 | 122 | 14.7 |
| 09 | 116 | 122 | 14.9 |
| -- | Transponder signal lost | | |
| 1213 | 115 | 120 | 15.2 |
| 1215 | 115 | 119 | 15.7 |
| 17 | 114 | 119 | 16.1 |
| 19 | 114 | 119 | 16.2 |
| 21 | 114 | 119 | 16.3 |
| 23 | 113 | 118 | 16.6 |
| 1225 | 112 | 117 | 16.7 |
| 27 | 111 | 115 | 17.0 |

Experiment No. 21
4 June 1964
Tracer Release:Site B
(1030 to 1130 CST)
Ascension Start:1045 CST
Tetroon Flight Level: 1500 ft

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 1051 | 144 | 149 | 11.0 |
| 53 | 145 | 149 | 11.1 |
| 55 | 145 | 150 | 10.8 |
| 57 | 146 | 150 | 10.5 |
| 59 | 147 | 152 | 10.3 |
| 1101 | 146 | 153 | 10.1 |
| 03 | 146 | 153 | 10.1 |
| 05 | 147 | 153 | 9.9 |
| 07 | 148 | 155 | 9.9 |
| 09 | 149 | 153 | 9.9 |
| 1111 | 150 | 154 | 9.9 |
| 13 | 150 | 155 | 9.8 |
| 15 | 152 | 156 | 9.7 |
| 17 | 153 | 157 | 9.6 |
| 19 | 154 | 159 | 9.6 |
| 1121 | 158 | 161 | 9.5 |
| 23 | 159 | 162 | 9.4 |
| 25 | 159 | 164 | 9.2 |
| 27 | 160 | 165 | 9.3 |
| 29 | 162 | 168 | 9.2 |
| 1131 | 164 | 168 | 9.0 |
| -- | Transponder signal lost | | |
| 1135 | 164 | 169 | 9.0 |
| -- | | BAREP | |
| 1145 | 174 | 177 | 8.6 |

Experiment No. 21 (cont.)
Tracer Release:Site
( to CST)
Ascension Start: CST
Tetroon Flight Level:

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 1147 | 176 | 180 | 8.6 |
| 49 | 176 | 182 | 8.4 |
| 51 | 177 | 183 | 8.5 |
| 53 | 178 | 185 | 8.5 |
| 55 | 180 | 187 | 8.4 |
| 1157 | 182 | 189 | 8.4 |
| 59 | 184 | 190 | 8.3 |
| 1201 | 186 | 193 | 8.2 |
| 03 | 188 | 195 | 8.2 |
| 05 | 190 | 196 | 8.1 |
| -- | Transponder signal lost | | |
| 1209 | 193 | 199 | 8.0 |
| 11 | 194 | 201 | 8.1 |
| 13 | 196 | 203 | 8.0 |
| 15 | 198 | 205 | 7.9 |
| 1217 | 202 | 208 | 7.8 |
| 19 | 204 | 209 | 7.8 |
| 21 | 207 | 212 | 7.8 |
| 23 | 209 | 216 | 7.8 |

# Table 7 (continued). TETROON OBSERVATIONS

Experiment No. 22
6 June 1964
Tracer Release:Site A
(1130 to 1230 CST)
Ascension Start:1145 CST
Tetroon Flight Level:1500 ft

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 1149 | 142 | 147 | 8.8 |
| 51 | 140 | 146 | 8.6 |
| -- | Transponder signal lost | | |
| 1157 | 132 | 138 | 8.0 |
| 59 | 131 | 137 | 7.9 |
| 1201 | 130 | 137 | 7.9 |
| 03 | 129 | 136 | 7.7 |
| 05 | 127 | 134 | 7.7 |
| 07 | 124 | 132 | 7.6 |
| 09 | 122 | 130 | 7.3 |
| 1211 | 118 | 126 | 7.2 |
| 13 | 117 | 124 | 7.1 |
| 15 | 116 | 122 | 7.2 |
| 17 | 112 | 118 | 7.3 |
| 19 | 110 | 115 | 7.4 |
| 1221 | 108 | 113 | 7.5 |
| 23 | 107 | 112 | 7.5 |
| 25 | 104 | 106 | 7.5 |
| 27 | 100 | 105 | 7.5 |
| 29 | 098 | 104 | 7.6 |
| 1131 | 095 | 103 | 7.7 |
| 33 | 095 | 102 | 7.8 |
| 35 | 093 | 099 | 7.9 |
| 37 | 091 | 096 | 8.0 |
| 39 | 089 | 094 | 8.0 |
| 1241 | 084 | 092 | 8.1 |
| 43 | 082 | 088 | 8.1 |
| 45 | 080 | 086 | 8.2 |

Experiment No. 23
7 June 1964
Tracer Release:Site A
(1132 to 1232 CST)
Ascension Start:1145 CST
Tetroon Flight Level:1500 ft

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 1149 | 140 | 147 | 9.4 |
| 51 | 139 | 145 | 9.2 |
| 53 | 135 | 143 | 9.2 |
| 55 | 133 | 139 | 9.2 |
| 57 | 130 | 136 | 9.2 |
| 1159 | 129 | 135 | 9.3 |
| 1201 | 127 | 133 | 9.4 |
| 03 | 123 | 129 | 9.5 |
| 05 | 122 | 128 | 9.7 |
| 07 | 121 | 127 | 9.9 |
| 1209 | 120 | 126 | 10.1 |
| 11 | 118 | 124 | 10.2 |
| 13 | 117 | 123 | 10.4 |
| 15 | 114 | 120 | 10.6 |
| 17 | 113 | 119 | 10.9 |
| 1219 | 112 | 117 | 11.1 |
| 21 | 109 | 115 | 11.3 |
| 23 | 107 | 113 | 11.4 |
| 25 | 100 | 106 | 11.6 |
| 27 | 103 | 109 | 11.8 |
| 1229 | 101 | 107 | 12.1 |
| 31 | 101 | 106 | - |
| 33 | 100 | 106 | - |
| 35 | 101 | 106 | - |
| -- | | RADIO | |
| 1257 | 090 | 096 | 2.1 |
| 59 | 090 | 096 | 2.0 |
| 1301 | 089 | 095 | 2.2 |
| 03 | 089 | 095 | 2.0 |
| 05 | 088 | 094 | 1.8 |
| 1307 | 087 | 093 | 1.9 |
| 09 | 087 | 093 | 1.8 |
| 11 | 087 | 093 | 1.6 |
| 13 | 086 | 092 | 1.4 |
| 15 | 086 | 092 | 1.4 |

Experiment No. 24
9 June 1964
Tracer Release:Site A
(1030 to 1130 CST)
Ascension Start:1140 CST
Tetroon Flight Level:1500 ft

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 1140 | 143 | - | 9.2 |
| 42 | 137 | 141 | 8.6 |
| 44 | 134 | 137 | 8.5 |
| 46 | 130 | 134 | 8.4 |
| 48 | 125 | 130 | 8.5 |
| 1150 | 117 | 119 | 8.9 |
| 52 | 114 | 118 | 9.0 |
| 54 | 111 | 114 | 9.2 |
| 56 | 106 | 111 | 9.8 |
| 58 | 102 | 106 | 10.4 |
| 1200 | 098 | 102 | 11.1 |
| 02 | 096 | 099 | 12.4 |
| 04 | 093 | 097 | 13.3 |
| 06 | - | - | 14.4 |

Experiment No. 25
10 June 1964
Tracer Release:Site A
(1033 to 1133 CST)
Ascension Start: 1045 CST
Tetroon Flight Level: 1000 ft

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 1103 | 139 | 144 | 10.5 |
| 05 | 139 | 144 | 10.6 |
| 07 | 140 | 144 | 10.7 |
| 09 | 140 | 144 | 10.9 |
| 11 | 140 | 144 | 11.0 |
| -- | Transponder signal lost | | |
| 1115 | 140 | 144 | 11.3 |
| 17 | - | - | 11.4 |
| -- | Transponder signal lost | | |
| 1125 | 138 | 142 | 12.1 |

Experiment No. 26
11 June 1964
Tracer Release:Site B
(1035 to 1135 CST)
Ascension Start: 1045 CST
Tetroon Flight Level: 1000 ft

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 1047 | 149 | 154 | 11.5 |
| 49 | 151 | 157 | 11.4 |
| 51 | 152 | 158 | 11.3 |
| 53 | 154 | 160 | 11.1 |
| 55 | 156 | 161 | 11.0 |
| 1057 | 157 | 162 | 10.9 |
| 59 | 161 | 167 | 10.7 |
| 1101 | 162 | 168 | 10.6 |
| 03 | 164 | 170 | 10.4 |
| 05 | 166 | 172 | 10.3 |
| 1107 | 168 | 175 | 10.1 |
| 09 | 169 | 175 | 10.0 |
| 11 | 170 | 177 | 9.8 |
| 13 | 173 | 178 | 9.6 |
| 15 | 174 | 180 | 9.4 |
| 1117 | 176 | 182 | 9.1 |
| 19 | 177 | 183 | 8.8 |
| 21 | 177 | 183 | 8.5 |
| 23 | 181 | 187 | 8.2 |
| 25 | 182 | 187 | 7.9 |
| 1127 | 185 | 189 | 7.7 |
| -- | Transponder signal lost | | |
| 1137 | 190 | - | 6.8 |
| -- | | RADIO | |
| 1147 | 195 | 198 | 5.4 |
| 1149 | 193 | 200 | 4.9 |
| 51 | 196 | 203 | 4.5 |
| 53 | 195 | 208 | 4.3 |
| 55 | 195 | 212 | 4.2 |
| 57 | 198 | 210 | 3.8 |
| 1159 | 200 | 214 | 3.7 |
| 1201 | 212 | 218 | 3.3 |
| 03 | 210 | 220 | 3.4 |
| -- | | RADIO | |
| 1213 | 219 | - | 3.1 |
| 1215 | 226 | - | 2.9 |

Experiment No. 27
10 October 1964
Tracer Release:Site B
(1130 to 1230 CST)
Ascension Start:1145 CST
Tetroon Flight Level:1500 ft

| Time (CST) | Azimuths (deg) | Range (nm) |
|---|---|---|
| 1203 | 152.0 | 11.5 |
| 05 | 154.0 | 11.6 |
| 07 | 156.0 | 11.6 |
| 09 | 157.0 | 11.7 |
| 11 | 158.0 | 12.0 |
| 1213 | 158.5 | 12.1 |
| 15 | 159.0 | 12.1 |
| 17 | 160.0 | 12.2 |
| 19 | 161.0 | 12.2 |
| -- | Transponder signal lost | |
| 1233 | 166.0 | |
| 35 | 166.0 | |
| 37 | 166.5 | |
| 39 | 167.0 | |
| 41 | 167.0 | |
| -- | Transponder signal lost | |
| 1251 | 168.0 | 12.4 |
| 53 | 169.5 | 12.5 |
| 55 | 170.0 | 12.6 |
| 57 | 170.5 | 12.7 |
| 1259 | 171.5 | 12.7 |
| 1301 | 171.5 | 12.7 |
| 03 | 172.0 | 12.7 |
| 05 | 173.0 | 12.7 |
| 07 | 173.5 | 12.7 |
| 1309 | 175.0 | 12.7 |
| 11 | 176.0 | 12.8 |
| 13 | 177.0 | 12.9 |
| 15 | 177.5 | 13.0 |
| 17 | 178.5 | 13.1 |
| 1319 | 179.5 | 13.2 |
| 21 | 180.0 | 13.3 |
| 23 | 180.0 | 13.4 |
| 25 | 180.0 | 13.5 |
| 27 | 181.0 | 13.6 |

# Table 7 (continued). TETROON OBSERVATIONS

Experiment No. 27 (cont.)

Tracer Release:Site
( to CST)
Ascension Start: CST
Tetroon Flight Level:

| Time (CST) | Azimuths (deg) | Range (nm) |
|---|---|---|
| 1329 | 181.0 | 13.7 |
| 31 | 180.0 | 13.7 |
| 33 | 180.0 | 13.8 |
| 35 | 181.5 | 14.0 |
| 37 | 182.0 | 14.0 |
| 1339 | 182.5 | 14.1 |
| 41 | 183.5 | 14.2 |
| 43 | 184.0 | 14.3 |
| 45 | 183.5 | 14.4 |
| 47 | 183.5 | 14.4 |
| 1349 | 183.5 | 14.4 |

Experiment No. 28
11 October 1964
Tracer Release:Site b
(1105 to 1205 CST)
Ascension Start: 1115CST
Tetroon Flight Level:1500 ft

| Time (CST) | Azimuths (deg) | Range (nm) |
|---|---|---|
| 1119 | 149.0 | 11.3 |
| 21 | 149.0 | 11.1 |
| 23 | 149.0 | 10.8 |
| 25 | 150.0 | 10.4 |
| 27 | 151.5 | 10.1 |
| 1129 | 152.0 | 9.8 |
| 31 | 153.0 | 9.5 |
| 33 | 154.0 | 9.1 |
| 35 | 154.0 | 8.7 |
| 37 | 154.2 | 8.4 |
| 1139 | 157.0 | 7.8 |
| 41 | 157.0 | 7.5 |
| 43 | 157.5 | 7.1 |
| 45 | 158.5 | 6.7 |
| 47 | 159.0 | 6.3 |
| 1149 | 161.0 | 6.0 |
| 51 | 163.0 | 5.7 |
| 53 | 166.0 | 5.2 |
| 55 | 169.5 | 4.8 |
| 57 | 173.0 | 4.5 |
| 1159 | 173.5 | 4.0 |
| 1201 | 179.0 | 3.7 |
| 03 | 184.0 | 3.5 |
| 05 | 186.0 | 3.3 |
| 07 | 193.0 | 3.1 |

Experiment No. 28 (cont.)

Tracer Release:Site
( to CST)
Ascension Start: CST
Tetroon Flight Level:

| Time (CST) | Azimuths (deg) | Range (nm) |
|---|---|---|
| 1209 | 197.0 | 2.7 |
| 11 | 206.0 | 2.4 |
| 13 | 214.0 | 2.3 |
| 15 | 230.0 | 2.4 |
| 17 | 242.0 | 2.4 |
| 1219 | 254.2 | 2.6 |
| 21 | 262.5 | 2.8 |
| 23 | 269.0 | 3.2 |
| 25 | 272.0 | 3.4 |
| 27 | 277.5 | 3.6 |
| 1229 | 280.0 | 3.8 |
| 31 | 285.0 | 4.1 |
| 33 | 289.5 | 4.4 |
| 35 | 293.0 | 4.6 |
| 37 | 295.0 | 4.9 |
| 1239 | 298.0 | 5.2 |
| 41 | 300.0 | 5.6 |

Experiment No. 29
12 October 1964
Tracer Release:Site A
(2000 to 2100 CST)
Ascension Start:2015 CST
Tetroon Flight Level:1500 ft

| Time (CST) | Azimuths (deg) | Range (nm) |
|---|---|---|
| 2023 | 146.0 | 10.2 |
| 25 | 147.0 | 10.3 |
| 27 | 146.5 | 10.3 |
| 29 | 146.5 | 10.3 |
| 31 | 146.5 | 10.3 |
| 2033 | 143.0 | 10.1 |
| 35 | 142.0 | 9.9 |
| 37 | 141.2 | 9.7 |
| 39 | 139.5 | 9.5 |
| 41 | 135.2 | 9.4 |
| 2043 | 132.5 | 9.3 |
| 45 | 129.0 | 9.2 |
| 47 | 125.0 | 9.2 |
| 49 | 122.0 | 9.2 |
| 51 | 119.0 | 9.2 |
| 2053 | 116.5 | 9.2 |
| 55 | 112.2 | 9.2 |
| 57 | 109.2 | 9.4 |
| 59 | 105.5 | 9.4 |
| 2101 | 101.5 | 9.5 |
| 2103 | 099.2 | 9.7 |
| 05 | 098.5 | 9.9 |
| 07 | 095.2 | 10.1 |
| 09 | 094.0 | 10.4 |
| 11 | 091.5 | 10.7 |

Experiment No. 29 (cont.)

Tracer Release:Site
( to CST)
Ascension Start: CST
Tetroon Flight Level:

| Time (CST) | Azimuths (deg) | Range (nm) |
|---|---|---|
| 2113 | 088.2 | 11.0 |
| 15 | 085.8 | 11.3 |
| 17 | 083.2 | 11.7 |
| 19 | 081.0 | 12.0 |
| 21 | 080.0 | 12.3 |
| 2123 | 079.2 | 12.8 |
| 25 | 077.3 | 13.3 |
| 27 | 076.0 | 13.5 |
| 29 | 075.1 | 13.9 |
| 31 | 074.2 | 14.0 |
| 2133 | 073.0 | 14.7 |
| 35 | 072.0 | 15.0 |
| 37 | 070.0 | 15.5 |
| 39 | 068.5 | 16.1 |
| 41 | 066.5 | 16.6 |
| 2143 | 065.8 | 17.1 |

Experiment No.

Tracer Release:Site A
( to CST)
Ascension Start: CST
Tetroon Flight Level: ft

| Time (CST) | Azimuths (deg) | Range (nm) |
|---|---|---|

# Table 7 (continued). TETROON OBSERVATIONS

**Experiment No.** 30
16 October 1964
**Tracer Release:** Site B
(2000 to 2100 CST)
**Ascension Start:** 2052 CST
**Tetroon Flight Level:** 1500 m

| Time (CST) | Azimuths (deg) | Range (nm) |
|---|---|---|
| 2058 | 148.0 | 11.9 |
| 2100 | 148.0 | 11.7 |
| 02 | 147.0 | 11.8 |
| 04 | 146.0 | 12.0 |
| 06 | 145.5 | 12.3 |
| 08 | 145.0 | 12.5 |
| 10 | 143.5 | 12.8 |
| 12 | 142.0 | 13.1 |
| 14 | 141.0 | 13.4 |
| 16 | 140.0 | 13.8 |
| 18 | 139.5 | 14.1 |
| 20 | 139.0 | 14.6 |
| 2122 | 137.5 | 14.9 |
| 24 | - | - |
| 26 | 135.0 | 15.0 |
| 28 | 136.0 | 15.0 |
| 30 | 137.0 | 15.0 |
| 32 | 137.0 | 15.0 |
| 34 | 137.0 | 15.0 |
| 36 | - | 15.0 |
| 38 | 136.0 | 15.0 |
| 2140 | 137.0 | 15.0 |
| TRANSPONDER SIGNAL LOST | | |
| 2150 | 135.0 | 14.7 |
| 52 | 135.0 | 14.7 |
| 54 | 135.0 | 14.7 |
| 56 | 134.0 | 14.7 |
| 58 | 134.0 | 14.8 |
| 2200 | 133.0 | 14.8 |
| 02 | 133.0 | 14.7 |
| 04 | 133.0 | 14.7 |
| 06 | 133.0 | 14.7 |
| 08 | 133.0 | 14.6 |
| 2210 | 133.0 | 14.6 |

**Experiment No.** 31
17 October 1964
**Tracer Release:** Site A
( 1315 to 1415 CST)
**Ascension Start:** 1330 CST
**Tetroon Flight Level:** 1500 m

| Time (CST) | Azimuths (deg) | Range (nm) |
|---|---|---|
| 1332 | 147.5 | 8.4 |
| 34 | 146.5 | 8.1 |
| 36 | 146.0 | 8.0 |
| 39 | 146.0 | 7.6 |
| 40 | 145.0 | 7.1 |
| 42 | 144.0 | 6.8 |
| 44 | 143.0 | 6.3 |
| 46 | 141.5 | 6.1 |
| 48 | 140.0 | 5.5 |
| 50 | 137.0 | 5.2 |
| 52 | 135.2 | 4.8 |
| 54 | 127.2 | 4.3 |
| 56 | 124.0 | 3.9 |
| 58 | 122.0 | 3.6 |
| 1400 | 118.0 | 2.9 |
| 02 | - | - |
| 04 | 112.0 | 2.1 |
| 06 | - | 1.8 |
| 08 | TOO | 1.5 |
| 10 | CLOSE | 1.3 |
| 12 | TO | 1.0 |
| 14 | RADAR | 1.0 |
| 16 | | 1.2 |
| 18 | - | 1.5 |
| 20 | 345.0 | 1.9 |
| 22 | 342.0 | 2.3 |
| 24 | 347.0 | 2.9 |
| 26 | 349.5 | 3.3 |
| 28 | 351.0 | 3.9 |
| 30 | 351.0 | 4.4 |
| 32 | - | - |
| 34 | 347.0 | 5.3 |
| 36 | 343.5 | 5.8 |
| 38 | 342.5 | 6.2 |
| 40 | 342.0 | 6.6 |
| 42 | 341.2 | 7.0 |
| 44 | 341.5 | 7.2 |
| 46 | 341.5 | 7.4 |
| 48 | 341.5 | 7.7 |
| 50 | 342.0 | 8.1 |
| 52 | 342.0 | 8.4 |
| 54 | 341.5 | 8.7 |
| 56 | 341.5 | 9.4 |
| 58 | 341.0 | 9.7 |
| 1500 | 342.0 | 10.1 |

**Experiment No.** 32
19 October 1964
**Tracer Release:** Site A
(1945 to 2045 CST)
**Ascension Start:** 2000 CST
**Tetroon Flight Level:** 1000 ft

| Time (CST) | Azimuths (deg) | Range (nm) |
|---|---|---|
| 2004 | 150.0 | 9.8 |
| 06 | 150.5 | 10.1 |
| -- | Transponder Signal Lost | |
| 2010 | 150.5 | 10.8 |
| 12 | 150.0 | 11.2 |
| 2014 | 151.0 | 11.8 |
| 16 | 151.0 | 12.3 |
| 18 | 151.0 | 12.7 |
| 20 | 151.0 | 13.0 |
| 22 | 151.0 | 13.7 |
| 2024 | 152.0 | 14.3 |
| -- | Transponder Signal Lost | |
| 2032 | 153.0 | 15.7 |
| 34 | 153.5 | 16.3 |
| 36 | 153.5 | 16.8 |

**Experiment No.** 33
20 October 1964
**Tracer Release:** Site A
(1915 to 2015 CST)
**Ascension Start:** 1930 CST
**Tetroon Flight Level:** 1000 ft

| Time (CST) | Azimuths (deg) | Range (nm) |
|---|---|---|
| 1932 | 143 | 8.8 |
| 34 | 139 | 8.7 |
| 36 | 132 | 8.4 |
| 38 | 127 | 8.3 |
| 40 | 122 | 8.3 |
| 1942 | 116 | 8.3 |
| 44 | 112 | 8.5 |
| 46 | 107 | 8.7 |
| 48 | 101 | 8.9 |
| -- | Transponder signal lost | |
| 1954 | 090 | 10.2 |

**Experiment No.** 35
6 March 1965
**Tracer Release:** Site A
(1230 to 1330 CST)
**Ascension Start:** 1245 CST
**Tetroon Flight Level:** 1000 ft

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 1245 | 141.0 | - | 10.40 |
| -- | Transponder signal lost | | |
| 1249 | 138.9 | 144.5 | 10.20 |
| -- | Transponder signal lost | | |
| 1253 | 139.5 | 140.4 | 11.56 |
| 1255 | 143.0 | 146.6 | 12.05 |
| 57 | 144.7 | 147.5 | 12.55 |
| 59 | 144.0 | 147.8 | 12.95 |
| 1301 | 143.0 | 149.2 | 13.27 |
| 03 | 143.5 | 149.0 | 13.80 |
| 1305 | 143.5 | 148.7 | 14.35 |
| 07 | 144.6 | 148.7 | 14.92 |
| 09 | 143.6 | 148.4 | 15.60 |
| 11 | 144.4 | 148.8 | 16.20 |
| 13 | 144.0 | 148.4 | 16.90 |
| 1315 | 144.6 | 148.5 | 17.61 |
| 17 | 144.4 | 148.8 | 18.25 |
| 19 | 144.5 | 148.5 | 18.90 |

**Experiment No.** 36
7 March 1965
**Tracer Release:** Site A
( 1230 to 1330 CST)
**Ascension Start:** 1245 CST
**Tetroon Flight Level:** 1000 ft

| Time (CST) | Azimuths (deg) | | Range (nm) |
|---|---|---|---|
| 1249 | 143.0 | 149.0 | 9.80 |
| 51 | 143.3 | 151.0 | 10.20 |
| 53 | 143.5 | 151.1 | 10.65 |
| 55 | 143.8 | 150.5 | 11.10 |
| 57 | 144.5 | 151.1 | 11.55 |
| 1259 | 145.4 | 151.5 | 11.80 |
| 1301 | 144.9 | 150.5 | 12.50 |
| 03 | 145.4 | 151.5 | 12.95 |
| 05 | 146.1 | 153.0 | 13.40 |
| 07 | 147.0 | 152.4 | 13.93 |
| 1309 | 147.0 | 153.6 | 14.45 |
| 11 | 147.5 | 154.2 | 14.88 |
| 13 | 149.2 | 153.5 | 15.40 |
| 15 | 149.8 | 155.3 | 15.86 |
| 17 | 149.5 | 155.0 | 16.35 |
| 1319 | 149.2 | 154.4 | 16.76 |
| 21 | 150.3 | 155.9 | 17.34 |
| 23 | 150.4 | 155.2 | 17.83 |
| 25 | 150.4 | 155.6 | 18.26 |
| 27 | 151.4 | 157.5 | 18.80 |
| 1329 | 150.6 | 157.5 | 19.30 |
| 31 | 152.6 | 156.5 | 19.83 |
| 33 | 152.5 | 156.6 | 20.13 |
| 35 | 153.0 | 156.6 | 20.70 |
| 37 | 151.3 | 157.6 | 21.16 |
| 1339 | 151.3 | 157.5 | 21.60 |
| 41 | 151.4 | 157.7 | 22.10 |
| 43 | 153.0 | 156.6 | 22.60 |
| 45 | 152.5 | 157.6 | 23.05 |
| 47 | 152.0 | 156.6 | 23.45 |
| 1349 | 152.2 | 156.6 | 23.85 |
| 51 | 151.3 | 156.6 | 24.86 |
| 53 | 152.0 | 156.5 | 24.60 |
| 55 | 151.6 | 157.0 | 25.05 |
| 57 | 151.6 | 156.5 | 25.65 |

# Table 7 (continued). TETROON OBSERVATIONS

Experiment No. 39
13 March 1965
Tracer Release:Site A
(1220 to 1320 CST)
Ascension Start:1235 CST
Tetroon Flight Level:1000 ft

| Time (CST) | Azimuths (deg) | Range (nm) |
|---|---|---|
| 1239 | 144.0 | 9.40 |
| 41 | 144.0 | 9.60 |
| 43 | 143.5 | 9.80 |
| 45 | 143.0 | 9.70 |
| 47 | 142.5 | 9.80 |
| 1249 | 142.0 | 9.90 |
| 51 | 141.9 | 10.00 |
| 53 | 140.0 | 10.00 |
| 55 | 139.0 | 10.00 |
| 57 | 139.0 | 10.00 |
| 1259 | 137.8 | 10.10 |
| 1301 | 137.0 | 10.20 |
| 03 | 136.9 | 10.30 |
| 05 | 136.1 | 10.30 |
| 07 | 135.0 | 10.30 |
| 1309 | 134.0 | 10.30 |
| 11 | 133.5 | 10.30 |
| 13 | 133.0 | 10.30 |
| 15 | 132.0 | 10.40 |
| 17 | 130.0 | 10.50 |
| 1319 | 127.2 | 10.55 |
| 21 | 127.3 | 10.60 |
| 23 | 127.0 | 10.70 |
| 25 | 126.0 | 10.90 |
| 27 | 125.0 | 11.10 |

Experiment No. 39 (cont.)

Tracer Release:Site
( to CST)
Ascension Start: CST
Tetroon Flight Level:

| Time (CST) | Azimuths (deg) | Range (nm) |
|---|---|---|
| 1329 | 124.0 | 11.20 |
| 31 | 123.0 | 11.20 |
| 33 | 122.0 | 11.30 |
| 35 | 121.2 | 11.50 |
| 37 | 120.8 | 11.60 |
| 1339 | 120.0 | 11.70 |
| 41 | 120.0 | 11.80 |
| 43 | 120.2 | 11.90 |
| 45 | 119.8 | 12.00 |
| 47 | 119.2 | 12.10 |
| 1349 | 118.8 | 12.20 |
| 51 | 117.8 | 12.30 |
| 53 | 117.1 | 12.40 |
| 55 | 117.0 | 12.60 |
| 57 | 116.6 | 12.60 |
| 1359 | 115.6 | 12.70 |
| 1401 | 115.0 | 12.80 |
| 03 | 114.0 | 12.95 |
| 05 | 114.2 | 13.10 |

Experiment No. 40
14 March 1965
Tracer Release:Site A
(1100 to 1200 CST)
Ascension Start:1147 CST
Tetroon Flight Level:1000 ft

| Time (CST) | Azimuths (deg) | Range (nm) |
|---|---|---|
| 1151 | 144.0 | 10.2 |
| 53 | 143.0 | 10.5 |
| 55 | 142.0 | 11.0 |
| 57 | 142.5 | 11.5 |
| 59 | 142.0 | 12.1 |
| 1201 | 141.7 | 12.7 |
| 03 | 141.0 | 13.5 |
| -- | Transponder signal lost | |
| 1211 | 137.5 | 16.2 |
| 13 | 137.0 | 17.1 |
| 1215 | 136.7 | 17.7 |
| 17 | 136.5 | 18.3 |
| 19 | 136.0 | 19.1 |
| 21 | 135.5 | 19.7 |
| 23 | 133.2 | 20.4 |
| 1225 | 132.8 | 20.9 |
| 27 | 132.5 | 21.6 |
| 29 | 132.0 | 22.3 |
| 31 | 131.5 | 22.9 |
| 33 | 131.0 | 23.8 |
| 1235 | 130.7 | 24.2 |
| 37 | 130.5 | 25.0 |
| 39 | 129.0 | 25.5 |

Experiment No. 41
15 March 1965
Tracer Release:Site A
(2050 to 2150 CST)
Ascension Start:2104 CST
Tetroon Flight Level:1000 ft

| Time (CST) | Azimuths (deg) | Range (nm) |
|---|---|---|
| 2108 | 146.5 | 9.5 |
| 10 | 148.7 | 9.8 |
| 12 | 148.8 | 10.0 |
| 14 | 148.7 | 10.4 |
| 16 | 148.8 | 10.7 |
| 2118 | 148.3 | 11.0 |
| 20 | 148.0 | 11.3 |
| 22 | 147.0 | 11.6 |
| 24 | 145.5 | 11.8 |
| 26 | 145.0 | 12.0 |
| 2128 | 143.6 | 12.3 |
| 30 | 142.5 | 12.6 |
| 32 | 140.6 | 12.9 |
| 34 | 139.2 | 13.1 |
| 36 | 138.6 | 13.4 |
| 2138 | 136.8 | 13.7 |
| 40 | 135.5 | 14.1 |
| 42 | 135.5 | 14.4 |
| 44 | 134.2 | 14.7 |
| 46 | 133.4 | 15.1 |
| -- | Transponder signal lost | |
| 2150 | 132.2 | 15.7 |
| 52 | 131.6 | 16.1 |
| 54 | 131.0 | 16.4 |
| 56 | 130.2 | 16.7 |

Experiment No. 41 (cont.)

Tracer Release:Site
( to CST)
Ascension Start: CST
Tetroon Flight Level:

| Time (CST) | Azimuths (deg) | Range (nm) |
|---|---|---|
| 2158 | 129.8 | 17.0 |
| 2200 | 129.0 | 17.3 |
| 02 | 128.8 | 17.7 |
| 04 | 128.6 | 18.0 |
| 06 | 128.4 | 18.5 |
| 2208 | 127.8 | 18.8 |
| 10 | 126.4 | 19.3 |
| 12 | 126.0 | 19.7 |
| 14 | 126.0 | 20.0 |
| 16 | 125.5 | 20.4 |
| 2218 | 125.5 | 20.8 |
| 20 | 124.5 | 21.2 |
| 22 | 124.0 | 21.6 |
| 24 | 124.0 | 22.0 |
| 26 | 123.8 | 22.3 |
| 2228 | 123.8 | 22.8 |
| 30 | 123.8 | 23.2 |
| 32 | 123.6 | 23.5 |
| 34 | 123.6 | 23.8 |

Experiment No. 42
16 March 1965
Tracer Release:Site B
(2030 to 2130 CST)
Ascension Start:2034 CST
Tetroon Flight Level:1000 ft

| Time (CST) | Azimuths (deg) | Range (nm) |
|---|---|---|
| 2036 | 150.0 | 10.8 |
| 38 | 151.2 | 10.3 |
| 40 | 150.5 | 9.2 |
| 42 | 153.2 | 7.9 |
| 44 | 155.5 | 6.9 |
| 2046 | 157.0 | 5.4 |
| 48 | 159.4 | 4.2 |
| 50 | 167.5 | 3.2 |
| -- | Transponder signal lost | |
| 2056 | 215.0 | 2.6 |
| 2058 | 228.0 | 2.7 |
| 2100 | 238.0 | 3.1 |
| 02 | 245.0 | 3.8 |
| 04 | 250.0 | 4.7 |

## PILOT BALLOON MEASUREMENTS

Single-theodolite observations of the winds aloft were made at the tracer release sites during all experiments. As few as two and as many as four ascensions per experiment were obtained, depending on the availability of personnel and on meteorological conditions. Ceiling balloons were inflated to standard free lift for 10-gram balloons. The azimuth and elevation angles were read at 30-second intervals; heights of the balloons above the surface at these intervals were computed from tables in U. S. Weather Bureau (1964b).

Table 8 lists for each ascent the heights of the balloon above the surface and the horizontal wind speed and direction at each height.

BLANK PAGE

TABLE 8. PILOT BALLOON MEASUREMENTS

Symbols

| | | |
|---|---|---|
| Site A | : | Forest Park |
| Site B | : | Roof of Knights of Columbus Building |
| Z(m) | : | Height in whole meters of the balloon above the surface |
| D(deg) | : | Wind direction to the nearest tenth of a degree of azimuth |
| S(m/s) | : | Wind speed to the nearest tenth of a meter per second |
| - | : | Missing data |

Preceding page blank

# Table 8 (continued). PILOT BALLOON MEASUREMENTS

Experiment No. 2

27 May 1963 Release Site A Tracer Release from 1410 to 1440 CST

| Ascension No. 1 Begin: 1315 CST | | | Ascension No. 2 Begin: 1330 CST | | |
|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 279.0 | 3.8 | 76 | 303.5 | 7.3 |
| 152 | 285.2 | 4.8 | 152 | 297.8 | 8.2 |
| 223 | 281.8 | 4.7 | 223 | 297.0 | 9.2 |
| 293 | 282.2 | 6.3 | 293 | 286.2 | 11.0 |
| 363 | 279.3 | 7.8 | 363 | 281.3 | 10.8 |
| 433 | 275.6 | 6.7 | 433 | 282.7 | 8.4 |
| 503 | 275.6 | 6.9 | 503 | 281.1 | 7.5 |
| 573 | 276.1 | 7.1 | 573 | 279.2 | 6.7 |
| 637 | 273.4 | 7.8 | 637 | 276.9 | 4.8 |
| 701 | 269.3 | 7.4 | | | |
| 765 | 269.7 | 7.3 | | | |
| 829 | 270.1 | 7.3 | | | |
| 893 | 267.0 | 7.7 | | | |

Experiment No. 3

28 May 1963 Release Site A Tracer Release from 1000 to 1100 CST

| Ascension No. 1 Begin: 0912 CST | | | Ascension No. 2 Begin: 1002 CST | | | Ascension No. 3 Begin: 1104 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 274.7 | 4.8 | 76 | 271.9 | 9.0 | 76 | 270.4 | 6.0 |
| 152 | 274.8 | 6.3 | 152 | 277.0 | 11.6 | 152 | 275.2 | 7.5 |
| 223 | 274.6 | 9.2 | 223 | 277.9 | 13.7 | 223 | 278.3 | 8.1 |
| 293 | 276.1 | 11.4 | 293 | 278.2 | 15.5 | 293 | 277.5 | 7.4 |
| 363 | 279.0 | 12.6 | 363 | 279.3 | 16.0 | 363 | 278.1 | 7.8 |
| 433 | 281.4 | 14.4 | 433 | 280.0 | 13.9 | 433 | 281.0 | 8.2 |
| 503 | 282.0 | 12.5 | 503 | 278.7 | 11.0 | 503 | 275.9 | 7.7 |
| 573 | 277.2 | 10.5 | 573 | 280.6 | 9.5 | 573 | 274.4 | 7.8 |
| 637 | 274.8 | 10.6 | 637 | 284.9 | 8.8 | 637 | 277.0 | 5.9 |
| 701 | 273.0 | 9.8 | 701 | 282.0 | 8.5 | 701 | 277.0 | 7.0 |
| 765 | 271.9 | 9.5 | 765 | 279.0 | 7.6 | 765 | 276.3 | 7.3 |

Experiment No. 4

19 July 1963 Release Site A Tracer Release from 1130 to 1230 CST

| Ascension No. 1 Begin: 1112 CST | | | Ascension No. 2 Begin: 1220 CST | | | Ascension No. 3 Begin: 1238 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 231.6 | 5.6 | 76 | 227.7 | 3.8 | 76 | 221.0 | 8.2 |
| 152 | 236.2 | 7.2 | 152 | 224.1 | 3.9 | 152 | 222.5 | 9.8 |
| 223 | 240.6 | 12.3 | 223 | 215.5 | 2.8 | 223 | 226.2 | 13.7 |
| 293 | 240.8 | 15.8 | 293 | 208.6 | 2.3 | 293 | 228.8 | 11.7 |
| 363 | 240.5 | 15.3 | 363 | 208.6 | 2.4 | 363 | 229.1 | 11.2 |
| 433 | 236.6 | 13.2 | | | | 433 | 228.8 | 15.4 |
| 503 | 218.0 | 7.4 | | | | 503 | 229.0 | 13.8 |
| 573 | 209.5 | 9.2 | | | | 573 | 231.2 | 11.3 |
| 637 | 213.7 | 13.1 | | | | 637 | 231.2 | 10.6 |
| 701 | 213.8 | 12.4 | | | | | | |

Experiment No. 5

22 July 1963 Release Site B Tracer Release from 1104 to 1204 CST

| Ascension No. 1 Begin: 1135 CST | | | Ascension No. 2 Begin: 1212 CST | | |
|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 172.2 | 3.8 | 76 | 137.8 | 3.0 |
| 152 | 182.0 | 4.8 | 152 | - | - |
| 223 | 182.8 | 5.8 | 223 | 143.8 | 4.0 |
| 293 | 194.8 | 5.6 | 293 | 175.0 | 2.6 |
| 363 | 211.8 | 3.8 | 363 | 219.2 | 3.6 |
| 433 | 173.6 | 1.8 | 433 | 211.9 | 3.0 |
| 503 | 165.8 | 2.9 | 503 | 198.4 | 3.3 |
| 573 | 185.6 | 4.6 | 573 | 200.9 | 3.6 |
| 637 | 210.6 | 5.7 | 637 | 214.1 | 4.2 |
| 701 | 223.9 | 5.0 | 701 | 219.4 | 5.7 |
| | | | 765 | 216.9 | 6.0 |
| | | | 829 | 213.2 | 5.8 |
| | | | 893 | 212.5 | 5.7 |
| | | | 957 | 211.5 | 5.2 |

# Table 8 (continued). PILOT BALLOON MEASUREMENTS

Experiment No. 6

23 July 1963 — Release Site B — Tracer Release from 1130 to 1230 CST

| Ascension No. 1 Begin: 0930 CST | | | Ascension No. 2 Begin: 1120 CST | | | Ascension No. 3 Begin: 1200 CST | | | Ascension No. 4 Begin: 1240 CST | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 107.5 | 7.3 | 76 | 138.5 | 3.5 | 76 | 140.1 | 5.1 | 76 | 139.9 | 1.8 |
| 152 | - | - | 152 | 133.9 | 4.6 | 152 | 144.5 | 7.5 | 152 | 147.0 | 2.0 |
| 223 | 113.8 | 5.4 | 223 | 131.9 | 4.3 | 223 | 142.2 | 10.7 | 223 | 129.0 | 2.6 |
| 293 | 113.1 | 6.0 | 293 | - | - | 293 | 133.5 | 15.0 | 293 | 113.2 | 3.2 |
| 363 | 112.9 | 6.7 | 363 | - | - | 363 | 132.5 | 10.0 | 363 | 103.6 | 3.7 |
| 433 | 114.0 | 6.2 | 433 | - | - | 433 | 134.3 | 4.4 | 433 | 100.3 | 3.2 |
| 503 | 117.2 | 6.2 | 503 | - | - | 503 | 137.2 | 8.5 | 503 | 97.2 | 3.2 |
| 573 | 120.9 | 7.0 | 573 | 102.7 | 2.8 | 573 | 138.8 | 11.4 | 573 | 101.8 | 3.6 |
| 637 | 127.6 | 7.2 | 637 | 103.9 | 2.1 | 637 | 140.9 | 7.5 | 637 | 100.6 | 2.8 |
| 701 | 138.3 | 5.3 | | | | 701 | 140.6 | 4.3 | 701 | 99.7 | 2.0 |
| 765 | 153.7 | 3.7 | | | | 765 | 140.9 | 3.7 | | | |
| 829 | 172.7 | 2.3 | | | | 829 | 141.1 | 3.0 | | | |
| 893 | 204.3 | 1.5 | | | | 893 | 135.0 | 6.5 | | | |
| 957 | 225.3 | 1.3 | | | | 957 | 136.0 | 10.0 | | | |
| 1021 | 267.5 | 1.2 | | | | | | | | | |

Experiment No. 7

25 July 1963 — Release Site B — Tracer Release from 1040 to 1140 CST

| Ascension No. 1 Begin: 0900 CST | | | Ascension No. 2 Begin: 0937 CST | | | Ascension No. 3 Begin: 1145 CST | | | Ascension No. 4 Begin: 1155 CST | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 182.6 | 6.5 | 76 | 168.2 | 4.3 | 76 | 137.8 | 6.2 | 76 | 143.1 | 4.2 |
| 152 | 183.2 | 6.6 | 152 | 182.1 | 5.0 | 152 | - | - | 152 | 140.5 | 4.2 |
| 223 | 181.0 | 6.0 | 223 | 155.0 | 3.3 | 223 | 125.1 | 8.0 | 223 | 137.0 | 4.2 |
| 293 | 185.9 | 3.9 | 293 | 135.0 | 2.4 | 293 | 132.5 | 7.0 | 293 | 135.5 | 6.0 |
| 363 | 203.0 | 1.8 | 363 | 135.0 | 1.8 | 363 | 139.2 | 8.0 | 363 | 135.6 | 4.2 |
| | | | 433 | 140.0 | 3.9 | 433 | 141.3 | 9.4 | 433 | 140.2 | 8.4 |
| | | | 503 | 134.7 | 3.8 | | | | 503 | 143.3 | 9.2 |
| | | | 573 | 131.0 | 3.4 | | | | 573 | 146.0 | 9.3 |
| | | | 637 | 130.2 | 4.6 | | | | 637 | 145.1 | 7.5 |
| | | | 701 | 129.9 | 5.5 | | | | 701 | 145.3 | 6.7 |
| | | | 765 | 131.1 | 6.5 | | | | 765 | 148.0 | 5.1 |
| | | | 829 | 133.2 | 6.6 | | | | 829 | 145.9 | 8.5 |
| | | | 893 | 133.1 | 6.8 | | | | 893 | 145.0 | 9.5 |
| | | | 957 | 133.3 | 7.6 | | | | 957 | 146.3 | 8.6 |

Experiment No. 8

26 July 1963 — Release Site B — Tracer Release from 1045 to 1145 CST

| Ascension No. 1 Begin: 0915 CST | | | Ascension No. 2 Begin: 1115 CST | | | Ascension No. 3 Begin: - | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 152.0 | 6.4 | 76 | 178.0 | 5.8 | 76 | 162.0 | 3.4 |
| 152 | 145.0 | 6.0 | 152 | 173.2 | 6.0 | 152 | 150.2 | 3.8 |
| 223 | 144.6 | 6.8 | 223 | 171.2 | 6.4 | 223 | 152.0 | 4.0 |
| 293 | 148.7 | 8.2 | 293 | 171.0 | 7.4 | 293 | 158.5 | 4.9 |
| 363 | 152.5 | 7.5 | 363 | 167.2 | 7.5 | 363 | 158.5 | 5.5 |
| 433 | 158.3 | 5.8 | 433 | 159.0 | 6.8 | 433 | 162.2 | 6.0 |
| 503 | 165.3 | 4.4 | 503 | 152.4 | 7.8 | 503 | 166.3 | 6.0 |
| 573 | 163.5 | 4.6 | 573 | 152.4 | 8.4 | 573 | 170.5 | 5.7 |
| 637 | 162.0 | 5.3 | 637 | 151.2 | 6.3 | 637 | 171.6 | 5.2 |
| 701 | 160.5 | 5.4 | 701 | 155.3 | 4.2 | | | |
| 765 | 192.3 | 6.1 | 765 | 163.1 | 5.0 | | | |
| 829 | 217.2 | 4.2 | 829 | 160.1 | 6.8 | | | |

Experiment No. 9

12 September 1963 — Release Site A — Tracer Release from 1115 to 1215 CST

| Ascension No. 1 Begin: 1105 CST | | | Ascension No. 2 Begin: 1121 CST | | |
|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 350.0 | 5.2 | 76 | 323.0 | 7.7 |
| 152 | 354.8 | 7.2 | 152 | 324.0 | 7.4 |
| 223 | 334.0 | 3.8 | 223 | 324.8 | 8.0 |
| 293 | 321.8 | 3.0 | 293 | 322.1 | 7.8 |
| 363 | 320.9 | 4.2 | 363 | 321.0 | 10.7 |
| 433 | 335.5 | 4.2 | | | |
| 503 | 341.4 | 3.6 | | | |
| 573 | 336.6 | 2.9 | | | |
| 637 | 323.4 | 3.6 | | | |
| 701 | 318.5 | 4.6 | | | |

# Table 8 (continued). PILOT BALLOON MEASUREMENTS

Experiment No. 11
14 September 1963 Release Site B Tracer Release from 1045 to 1145 CST

| Ascension No. 1 Begin: 0935 CST | | | Ascension No. 2 Begin: 1050 CST | | | Ascension No. 3 Begin: 1150 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 39.3 | 4.4 | 76 | 31.6 | 3.2 | 76 | 75.1 | 4.3 |
| 152 | 31.4 | 4.8 | 152 | 29.3 | 3.4 | 152 | 63.2 | 4.1 |
| 223 | 30.6 | 5.2 | 223 | 27.2 | 4.3 | 223 | 44.4 | 4.3 |
| 293 | 36.2 | 5.6 | 293 | 37.2 | 5.2 | 293 | 37.6 | 4.8 |
| 363 | 42.7 | 5.3 | 363 | 46.5 | 5.9 | 363 | 50.2 | 7.2 |
| 433 | 46.7 | 4.8 | 433 | 59.8 | 4.8 | 433 | 53.4 | 8.3 |
| 503 | 63.3 | 4.3 | 503 | 40.4 | 4.2 | 503 | 56.1 | 9.6 |
| 573 | 79.4 | 3.9 | 573 | 65.2 | 3.1 | 573 | 60.0 | 9.9 |
| 637 | 67.5 | 4.0 | 637 | 78.1 | 2.8 | 637 | 61.2 | 10.1 |
| 701 | 55.1 | 4.4 | 701 | 72.0 | 2.9 | 701 | 63.0 | 10.0 |
| | | | 765 | 89.0 | 2.8 | 765 | 63.1 | 10.0 |
| | | | 829 | 102.3 | 2.4 | 829 | 62.8 | 10.1 |

Experiment No. 12
17 September 1963 Release Site B Tracer Release from 2000 to 2040 CST

| Ascension No. 1 Begin: 1840 CST | | | Ascension No. 2 Begin: 2010 CST | | | Ascension No. 3 Begin: 2033 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 11 | | | | | | | |
| 152 | 140.2 | 4.6 | 76 | 145.1 | 6.5 | 76 | 138.6 | 6.7 |
| 223 | 142.8 | 6.8 | 152 | 144.3 | 8.0 | 152 | 138.2 | 10.3 |
| 293 | 143.2 | 7.8 | 223 | 144.3 | 7.9 | 223 | 140.6 | 10.4 |
| 363 | 143.1 | 7.4 | 293 | 145.0 | 7.4 | 293 | 142.0 | 9.6 |
| | 143.3 | 7.4 | 363 | 147.0 | 7.0 | 363 | 142.1 | 8.5 |
| 433 | 1 | | | | | | | |
| 503 | 143.3 | 7.4 | 433 | 147.8 | 6.7 | 433 | 143.0 | 7.8 |
| 573 | 139.8 | 7.2 | 503 | 147.0 | 6.1 | 503 | 144.5 | 7.3 |
| 637 | 140.4 | 6.2 | 573 | 149.1 | 5.3 | 573 | 146.0 | 6.3 |
| 701 | 143.7 | 5.6 | 637 | 149.8 | 4.8 | 637 | 148.1 | 5.3 |
| | 143.7 | 6.0 | 701 | 148.0 | 4.7 | 701 | 150.1 | 5.4 |

Experiment No. 11
16 September 1963 Release Site B Tracer Release from 1100 to 1200 CST

| Ascension No. 1 Begin: 0900 CST | | | Ascension No. 2 Begin: 1054 CST | | | Ascension No. 3 Begin: 1205 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 137.1 | 3.1 | 76 | 133.5 | 2.8 | 76 | 120.8 | 6.4 |
| 152 | 135.2 | 3.7 | 152 | 140.0 | 3.2 | 152 | 132.1 | 7.3 |
| 223 | 141.7 | 4.8 | 223 | 149.0 | 2.5 | 223 | 146.0 | 7.0 |
| 293 | 142.8 | 6.0 | 293 | 156.2 | 3.0 | 293 | 150.0 | 8.5 |
| 363 | 141.2 | 5.9 | 363 | 159.1 | 4.4 | 363 | 149.8 | 10.4 |
| 433 | 134.1 | 5.8 | 433 | 162.7 | 5.5 | 433 | 152.5 | 10.2 |
| 503 | 132.0 | 6.2 | 503 | 165.7 | 6.8 | 503 | 156.0 | 8.8 |
| 573 | 134.5 | 7.0 | 573 | 165.7 | 7.7 | 573 | 164.5 | 6.6 |
| 637 | 135.8 | 7.8 | 637 | 163.5 | 8.1 | 637 | 171.4 | 6.9 |
| 701 | 134.0 | 7.4 | 701 | 162.5 | 8.4 | 701 | 166.9 | 8.2 |
| 765 | 132.3 | 6.9 | | | | | | |

Experiment No. 13
18 September 1963 Release Site B Tracer Release from 2000 to 2100 CST

| Ascension No. 1 Begin: 1820 CST | | | Ascension No. 2 Begin: 2007 CST | | | Ascension No. 3 Begin: 2105 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | | | | | | | | |
| 152 | 80.5 | 2.7 | 76 | 72.7 | 2.8 | 76 | 116.7 | 2.1 |
| 223 | 84.3 | 3.0 | 152 | 83.5 | 3.2 | 152 | 127.0 | 2.7 |
| 293 | 89.5 | 2.7 | 223 | 90.3 | 2.6 | 223 | 131.3 | 3.1 |
| 363 | 92.4 | 2.2 | 293 | 96.0 | 2.3 | 293 | 131.3 | 3.1 |
| | 92.8 | 1.6 | 363 | 105.6 | 2.3 | 363 | 133.5 | 3.2 |
| 433 | 15 | | | | | | | |
| 503 | 92.0 | 1.2 | 433 | 117.0 | 2.3 | 433 | 143.9 | 3.3 |
| 573 | 96.7 | 1.0 | 503 | 122.5 | 2.5 | 503 | 145.0 | 3.3 |
| 637 | 90.6 | 1.0 | 573 | 139.4 | 2.4 | 573 | 148.1 | 3.6 |
| 701 | 97.7 | 0.8 | 637 | 148.0 | 2.5 | 637 | 149.2 | 3.9 |
| | 93.2 | 0.8 | 701 | 142.4 | 2.8 | 701 | 151.0 | 3.8 |

## Table 8 (continued). PILOT BALLOON MEASUREMENTS

Experiment No. 14

1 April 1964 Release Site B Tracer Release from 1200 to 1300 CST

| Ascension No. 1 Begin: 1050 CST | | | Ascension No. 2 Begin: 1135 CST | | | Ascension No. 3 Begin: 1205 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 145.6 | 12.8 | 76 | 137.7 | 16.7 | 76 | 140.7 | 4.6 |
| 152 | 147.1 | 12.1 | 152 | 140.2 | 15.0 | 152 | 140.2 | 4.7 |
| 223 | 148.3 | 12.4 | 223 | 140.0 | 13.6 | 223 | 145.6 | 5.0 |
| 293 | 147.4 | 17.3 | 293 | 139.8 | 11.0 | 293 | 149.7 | 6.5 |
| 363 | 150.8 | 19.5 | 363 | 139.9 | 10.8 | 363 | 160.0 | 9.1 |
| 433 | 153.0 | 20.3 | 433 | 138.7 | 11.5 | 433 | 175.6 | 10.6 |
| 503 | 150.6 | 8.2 | 503 | 141.8 | 12.4 | 503 | 182.6 | 10.4 |
| 573 | 148.2 | 8.0 | 573 | 143.7 | 13.8 | 573 | 187.6 | 9.8 |
| 637 | 189.5 | 10.3 | | | | 637 | 190.2 | 9.8 |
| 701 | 182.3 | 14.4 | | | | 701 | 189.4 | 14.3 |
| | | | | | | 765 | 201.7 | 10.3 |
| | | | | | | 829 | 221.0 | 7.6 |
| | | | | | | 893 | 207.2 | 8.8 |

Experiment No. 15

6 April 1964 Release Site B Tracer Release from 2040 to 2140 CST

| Ascension No. 1 Begin: 1840 CST | | | Ascension No. 2 Begin: 2006 CST | | | Ascension No. 3 Begin: 2054 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 177.6 | 6.4 | 76 | 280.7 | 6.4 | 76 | 278.7 | 7.8 |
| 152 | 183.5 | 7.2 | 152 | 275.8 | 7.2 | 152 | 275.0 | 8.6 |
| 223 | 178.1 | 6.8 | 223 | 273.3 | 7.9 | 223 | 272.5 | 7.8 |
| 293 | 179.9 | 6.8 | 293 | 275.2 | 7.0 | 293 | 273.2 | 7.4 |
| 363 | 195.2 | 6.7 | 363 | 273.4 | 6.4 | 363 | 273.3 | 7.9 |
| 433 | 205.9 | 6.8 | 433 | 271.2 | 7.9 | 433 | 270.8 | 8.5 |
| 503 | 202.0 | 7.4 | 503 | 277.0 | 7.8 | 503 | 267.2 | 10.3 |
| 573 | 201.2 | 8.4 | 573 | 279.0 | 6.6 | 573 | 266.8 | 10.8 |
| 637 | 203.6 | 7.6 | 637 | 276.3 | 5.6 | 637 | 257.5 | 11.0 |
| 701 | 215.6 | 5.6 | 701 | 271.0 | 4.5 | 701 | 251.1 | 11.2 |
| 765 | 225.0 | 5.3 | 765 | 276.2 | 5.2 | 765 | 252.5 | 11.6 |
| 829 | 221.2 | 7.6 | 829 | 276.2 | 5.6 | 829 | 256.2 | 12.3 |
| 893 | 215.1 | 9.0 | | | | 893 | 255.2 | 10.5 |
| 957 | 214.2 | 8.6 | | | | 957 | 255.3 | 9.8 |

Experiment No. 16

7 April 1964 Release Site A Tracer Release from 2048 to 2148 CST

| Ascension No. 1 Begin: 1950 CST | | | Ascension No. 2 Begin: 2000 CST | | | Ascension No. 3 Begin: 2055 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 310.0 | 4.2 | 76 | 326.0 | 9.7 | 76 | 318.7 | 9.0 |
| 152 | 306.8 | 4.9 | 152 | 319.2 | 7.8 | 152 | 317.1 | 10.5 |
| 223 | 309.9 | 7.0 | 223 | 312.8 | 9.2 | 223 | 315.9 | 11.8 |
| 293 | 312.3 | 8.4 | 293 | 311.9 | 10.2 | 293 | 312.9 | 12.4 |
| 363 | 312.3 | 8.6 | 363 | 312.9 | 10.0 | 363 | 310.2 | 13.2 |
| 433 | 313.9 | 9.0 | 433 | 311.9 | 11.1 | 433 | 311.1 | 17.0 |
| 503 | 316.2 | 9.8 | 503 | 314.9 | 14.6 | 503 | 309.0 | 18.6 |
| 573 | 316.0 | 8.5 | 573 | 311.3 | 15.0 | 573 | 306.6 | 16.2 |
| 637 | 317.9 | 7.4 | 637 | 310.8 | 15.1 | 637 | 305.5 | 14.4 |
| 701 | 319.0 | 7.3 | 701 | 308.4 | 16.3 | 701 | 307.3 | 16.6 |
| 765 | 313.1 | 7.8 | 765 | 307.2 | 16.8 | | | |
| 829 | 307.1 | 9.4 | 829 | 308.1 | 16.0 | | | |
| 893 | 308.8 | 10.6 | 893 | 308.0 | 17.6 | | | |
| 957 | 309.2 | 10.3 | 957 | 308.1 | 20.0 | | | |

Experiment No. 17

8 April 1964 Release Site A Tracer Release from 2030 to 2130 CST

| Ascension No. 1 Begin: 1920 CST | | | Ascension No. 2 Begin: 1950 CST | | | Ascension No. 3 Begin: 2040 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 253.4 | 6.8 | 76 | 251.7 | 5.4 | 76 | 256.1 | 6.6 |
| 152 | 261.8 | 8.4 | 152 | 259.8 | 8.6 | 152 | 264.1 | 9.3 |
| 223 | 269.5 | 9.7 | 223 | 265.7 | 11.5 | 223 | 271.3 | 11.4 |
| 293 | 274.0 | 11.2 | 293 | 272.1 | 13.8 | 293 | 280.3 | 11.6 |
| 363 | 275.3 | 11.6 | 363 | 280.2 | 13.9 | 363 | 283.8 | 11.7 |
| 433 | 285.6 | 11.0 | 433 | 287.4 | 13.2 | 433 | 282.6 | 12.2 |
| 503 | 292.7 | 11.5 | 503 | 293.3 | 12.0 | | | |
| 573 | 296.6 | 12.2 | 573 | 300.0 | 12.2 | | | |
| 637 | 301.2 | 11.5 | 637 | 304.3 | 12.5 | | | |
| 701 | 302.6 | 11.0 | 701 | 304.9 | 12.5 | | | |

# Table 8 (continued). PILOT BALLOON MEASUREMENTS

Experiment No. 18

3 April 1964 Release Site A Tracer Release from 2045 to 2145 CST

| Ascension No. 1 Begin: 1855 CST | | | Ascension No. 2 Begin: 1935 CST | | |
|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 229.9 | 6.0 | 76 | 213.8 | 6.1 |
| 152 | 231.6 | 8.8 | 152 | 223.7 | 6.6 |
| 223 | 234.3 | 9.2 | 223 | 233.6 | 8.8 |
| 293 | 236.0 | 9.2 | 293 | 237.6 | 9.8 |
| 363 | 234.2 | 10.2 | 363 | 238.7 | 10.3 |
| 433 | 236.0 | 10.8 | 433 | 238.7 | 10.5 |
| 503 | 238.0 | 10.7 | | | |
| 573 | 238.3 | 10.4 | | | |
| 637 | 242.9 | 10.4 | | | |
| 701 | 247.0 | 10.4 | | | |

Experiment No. 19

2 June 1964 Release Site A Tracer Release from 1030 to 1130 CST

| Ascension No. 1 Begin: 0905 CST | | | Ascension No. 2 Begin: - | | | Ascension No. 3 Begin: - | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 296.6 | 2.4 | 76 | 310.6 | 8.2 | 76 | 300.8 | 2.8 |
| 152 | 299.6 | 2.4 | 152 | 309.3 | 9.6 | 152 | 303.5 | 2.5 |
| 223 | 303.3 | 3.8 | 223 | 312.2 | 11.8 | 223 | 296.1 | 3.0 |
| 293 | 301.1 | 5.6 | 293 | 313.2 | 14.7 | 293 | 303.3 | 3.1 |
| 363 | 301.1 | 6.4 | 363 | 312.0 | 14.9 | 363 | 307.8 | 2.1 |
| 433 | 302.1 | 7.0 | 433 | 313.7 | 17.8 | 433 | 304.6 | 2.0 |
| 503 | 303.1 | 7.2 | 503 | 316.0 | 20.9 | 503 | 304.9 | 3.2 |
| 573 | 304.2 | 5.8 | 573 | 314.8 | 17.7 | 573 | 303.4 | 4.2 |
| 637 | 303.8 | 5.3 | 637 | 309.2 | 9.6 | 637 | 300.8 | 4.7 |
| 701 | 302.2 | 5.1 | 701 | 235.0 | 1.6 | 701 | 301.7 | 5.2 |
| 765 | 304.1 | 6.4 | 765 | 245.9 | 4.0 | 765 | 300.9 | 5.8 |
| 829 | 305.2 | 5.9 | 829 | 207.0 | 3.8 | 829 | 299.8 | 6.1 |
| 893 | 305.5 | 6.2 | 893 | 139.9 | 10.6 | 893 | 299.0 | 6.0 |
| 957 | 305.5 | 6.2 | 957 | 134.7 | 11.8 | 957 | 297.8 | 5.7 |

Experiment No. 20

3 June 1964 Release Site A Tracer Release from 1040 to 1140 CST

| Ascension No. 1 Begin: 0913 CST | | | Ascension No. 2 Begin: 1043 CST | | | Ascension No. 3 Begin: 1155 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 223.4 | 0.6 | 76 | 292.5 | 1.8 | 76 | 267.2 | 3.5 |
| 152 | 289.4 | 0.3 | 152 | 297.8 | 2.3 | 152 | 257.0 | 6.2 |
| 223 | 301.7 | 0.9 | 223 | 273.0 | 5.1 | 223 | 266.1 | 6.8 |
| 293 | 283.4 | 1.4 | 293 | 261.2 | 4.4 | 293 | 280.0 | 7.0 |
| 363 | 288.3 | 1.6 | 363 | 259.3 | 5.1 | 363 | 285.0 | 5.8 |
| 433 | 290.7 | 1.6 | 433 | 266.4 | 5.6 | 433 | 325.3 | 2.2 |
| 503 | 283.3 | 2.0 | 503 | 274.3 | 4.7 | 503 | 047.0 | 1.8 |
| 573 | 284.2 | 2.5 | 573 | 272.8 | 2.2 | 573 | 088.8 | 1.8 |
| 637 | 282.6 | 2.8 | 637 | 252.8 | 1.2 | 637 | 147.2 | 1.6 |
| 701 | 278.8 | 3.2 | 701 | 264.1 | 1.0 | 701 | 203.6 | 2.6 |
| 765 | 274.7 | 3.2 | 765 | 271.1 | 1.3 | 765 | 209.2 | 2.6 |
| 829 | 274.7 | 3.1 | 829 | 251.0 | 1.9 | 829 | 203.3 | 1.6 |
| 893 | 273.4 | 3.2 | 893 | 233.2 | 2.1 | 893 | 222.7 | 0.8 |
| 957 | 272.7 | 3.2 | 957 | 227.7 | 2.1 | 957 | 263.1 | 0.5 |

Experiment No. 21

4 June 1964 Release Site B Tracer Release from 1030 to 1130 CST

| Ascension No. 1 Begin: 1020 CST | | | Ascension No. 2 Begin: 1106 CST | | | Ascension No. 3 Begin: 1137 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 183.2 | 6.0 | 76 | 163.7 | 7.8 | 76 | 148.0 | 11.0 |
| 152 | 178.2 | 4.9 | 152 | 159.8 | 11.0 | 152 | 154.1 | 9.6 |
| 223 | 159.3 | 2.6 | 223 | 158.8 | 12.6 | 223 | 163.2 | 5.7 |
| 293 | 166.3 | 3.8 | 293 | 157.8 | 11.9 | 293 | 167.7 | 5.4 |
| 363 | 170.5 | 4.9 | 363 | 160.0 | 8.4 | 363 | 167.0 | 4.0 |
| 433 | 163.1 | 5.1 | 433 | 162.4 | 4.8 | 433 | 143.8 | 2.2 |
| 503 | 156.0 | 6.0 | 503 | 155.8 | 2.5 | 503 | 140.1 | 2.9 |
| 573 | 150.3 | 5.8 | 573 | 147.1 | 3.7 | 573 | 152.5 | 5.0 |
| 637 | 145.5 | 5.2 | 637 | 185.2 | 5.3 | 637 | 153.9 | 6.1 |
| 701 | 138.3 | 4.2 | 701 | 129.0 | 5.8 | 701 | 142.7 | 4.8 |
| 765 | 119.8 | 3.4 | 765 | 089.0 | 7.2 | 765 | 134.5 | 4.5 |
| 829 | 107.0 | 5.3 | 829 | 080.0 | 1.2 | 829 | 135.5 | 4.9 |
| | | | 893 | 006.8 | 0.9 | 893 | 139.4 | 5.1 |
| | | | 957 | 332.3 | 0.8 | 957 | 145.6 | 5.2 |

# Table 8 (continued). PILOT BALLOON MEASUREMENTS

6 June 1964 — Experiment No. 22 — Release Site A — Tracer Release from 1130 to 1230 CST

| Ascension No. 1 Begin: 0959 CST | | | Ascension No. 2 Begin: 1130 CST | | | Ascension No. 3 Begin: 1228 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 196.5 | 6.6 | 76 | 209.5 | 2.7 | 76 | 145.4 | 6.2 |
| 152 | 191.1 | 7.4 | 152 | 217.7 | 4.1 | 152 | 144.8 | 5.9 |
| 223 | 190.8 | 7.5 | 223 | 214.0 | 6.0 | 223 | 173.3 | 3.4 |
| 293 | 189.0 | 7.8 | 293 | 213.9 | 6.9 | 293 | 204.1 | 2.6 |
| 363 | 186.8 | 8.4 | 363 | 213.0 | 7.6 | 363 | 188.8 | 2.8 |
| 433 | 182.4 | 6.6 | 433 | 213.0 | 7.5 | 433 | 194.2 | 4.3 |
| 503 | 189.4 | 4.6 | 503 | 213.9 | 6.7 | 503 | 204.8 | 5.8 |
| 573 | 209.6 | 3.6 | 573 | 217.9 | 5.9 | 573 | 210.3 | 5.4 |
| 637 | 228.7 | 3.6 | 637 | 222.1 | 5.8 | 637 | 209.1 | 4.0 |
| 701 | 241.8 | 4.6 | 701 | 224.0 | 5.3 | 701 | 195.1 | 4.8 |
| 765 | 250.9 | 4.7 | 765 | 223.3 | 4.6 | 765 | 194.7 | 5.8 |
| 829 | 257.2 | 5.1 | 829 | 220.6 | 4.5 | 829 | 200.9 | 5.1 |
| 893 | 257.2 | 6.2 | 893 | 227.1 | 3.8 | 893 | 211.0 | 4.8 |
| 957 | 257.2 | 6.8 | 957 | 237.1 | 3.2 | 957 | 214.3 | 4.8 |
| | | | | | | 1021 | 215.2 | 4.8 |
| | | | | | | 1085 | 215.3 | 5.1 |

9 June 1964 — Experiment No. 24 — Release Site A — Tracer Release from 1030 to 1130 CST

| Ascension No. 1 Begin: 0925 CST | | | Ascension No. 2 Begin: 1107 CST | | | Ascension No. 3 Begin: 1145 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 215.6 | 4.4 | 76 | 206.2 | 5.1 | 76 | 205.7 | 9.0 |
| 152 | 219.1 | 5.2 | 152 | 202.8 | 3.9 | 152 | 206.3 | 9.4 |
| 223 | 223.2 | 9.0 | 223 | 223.0 | 3.2 | 223 | 210.0 | 10.8 |
| 293 | 226.4 | 11.2 | 293 | 218.8 | 4.3 | 293 | 208.3 | 14.3 |
| 363 | 228.0 | 14.5 | 363 | 214.4 | 6.7 | 363 | 208.8 | 16.9 |
| 433 | 226.1 | 16.2 | 433 | 223.1 | 7.8 | 433 | 210.0 | 19.3 |
| 503 | 224.8 | 15.8 | 503 | 239.3 | 9.1 | 503 | 211.8 | 17.9 |
| 573 | 221.7 | 13.8 | 573 | 271.1 | 12.6 | 573 | 214.0 | 16.9 |
| 637 | 222.5 | 10.6 | 637 | 255.0 | 11.3 | 637 | 211.9 | 18.1 |
| 701 | 232.7 | 11.1 | 701 | 231.8 | 6.0 | 701 | 212.2 | 18.9 |
| 765 | 239.7 | 13.7 | 765 | 250.8 | 7.0 | 765 | 215.3 | 18.3 |
| 829 | 249.8 | 15.2 | 829 | 246.2 | 7.2 | 829 | 217.0 | 15.2 |
| 893 | 252.0 | 16.8 | 893 | 243.5 | 7.3 | 893 | 217.0 | 14.4 |

7 June 1964 — Experiment No. 23 — Release Site A — Tracer Release from 1132 to 1232 CST

| Ascension No. 1 Begin: 0950 CST | | | Ascension No. 2 Begin: 1148 CST | | | Ascension No. 3 Begin: 1240 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 249.3 | 3.8 | 76 | 215.1 | 5.6 | 76 | 227.2 | 7.3 |
| 152 | 232.1 | 3.5 | 152 | 221.2 | 3.7 | 152 | 227.7 | 8.0 |
| 223 | 213.2 | 1.8 | 223 | 232.0 | 4.6 | 223 | 230.6 | 7.4 |
| 293 | 195.8 | 1.0 | 293 | 232.0 | 8.0 | 293 | 235.4 | 7.2 |
| 363 | 198.7 | 1.4 | 363 | 232.0 | 10.4 | 363 | 238.8 | 7.6 |
| 433 | 208.3 | 2.3 | 433 | 234.0 | [illegible] | 433 | 244.0 | 5.6 |
| 503 | 211.6 | 3.0 | 503 | 237.[illegible] | [illegible] | 503 | 245.6 | 6.3 |
| 573 | 217.5 | 3.8 | 573 | 239.7 | [illegible] | 573 | 245.0 | 7.0 |
| 637 | 216.5 | 4.0 | 637 | 245.7 | 3.5 | 637 | 241.4 | 7.1 |
| 701 | 217. | 3.6 | 701 | 240.5 | 1.2 | 701 | 241.1 | 7.6 |
| 765 | 236.2 | 3.6 | 765 | 273.1 | 0.5 | 765 | 241.5 | 7.0 |
| 829 | 238.3 | 3.8 | 829 | 252.2 | 3.3 | 829 | 243.0 | 6.9 |
| 893 | 230.6 | 4.6 | 893 | 247.6 | 5.2 | 893 | 243.2 | 7.0 |
| 957 | 230.6 | 5.5 | 957 | 248.8 | 5.2 | 957 | 241.9 | 6.6 |

10 June 1964 — Experiment No. 25 — Release Site A — Tracer Release from 1033 to 1133 CST

| Ascension No. 1 Begin: 0954 CST | | | Ascension No. 2 Begin: 1051 CST | | | Ascension No. 3 Begin: 1138 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 345.2 | 1.4 | 76 | 295.8 | 2.6 | 76 | 259.3 | 1.4 |
| 152 | 334.3 | 1.6 | 152 | 293.2 | 2.6 | 152 | 281.7 | 0.8 |
| 223 | 328.0 | 1.8 | 223 | 281.8 | 1.8 | 223 | 332.1 | 1.2 |
| 293 | 346.1 | 1.8 | 293 | 279.7 | 2.0 | 293 | 322.9 | 2.0 |
| 363 | 356.3 | 2.0 | 363 | 279.0 | 3.7 | 363 | 311.2 | 2.8 |
| 433 | 344.8 | 2.6 | 433 | 280.3 | 4.2 | 433 | 301.5 | 3.4 |
| 503 | 332.2 | 3.4 | 503 | 303.3 | 3.0 | 503 | 288.7 | 3.8 |
| 573 | 325.8 | 4.4 | 573 | 322.8 | 2.7 | 573 | 276.1 | 4.6 |
| 637 | 325.2 | 5.4 | 637 | 322.8 | 2.6 | 637 | 272.8 | 3.6 |
| 701 | 321.2 | 6.1 | 701 | 333.7 | 2.9 | 701 | 277.3 | 3.8 |
| 765 | 309.6 | 7.1 | 765 | 348.8 | 3.4 | 765 | 292.0 | 3.7 |
| 829 | 303.3 | 8.6 | 829 | 354.4 | 3.4 | 829 | 307.0 | 4.2 |
| 893 | 303.4 | 8.1 | 893 | 355.3 | 3.2 | 893 | 309.9 | 4.5 |

# Table 8 (continued). PILOT BALLOON MEASUREMENTS

Experiment No. 26

11 June 1964 — Release Site B — Tracer Release from 1035 to 1135 CST

| Ascension No. 1 Begin: 0953 CST | | | Ascension No. 2 Begin: 1100 CST | | | Ascension No. 3 Begin: 1135 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 80.0 | 10.0 | 76 | 76.8 | 5.4 | 76 | 133.4 | 6.8 |
| 152 | 85.3 | 11.4 | 152 | 80.0 | 5.0 | 152 | 135.1 | 8.0 |
| 223 | 85.3 | 13.0 | 223 | 80.6 | 5.0 | 223 | 139.2 | 8.5 |
| 293 | 82.3 | 11.9 | 293 | 84.9 | 4.2 | 293 | 142.0 | 10.4 |
| 363 | 74.8 | 6.4 | 363 | 102.3 | 3.8 | 363 | 142.3 | 12.0 |
| 433 | 74.8 | 4.7 | 433 | 124.6 | 4.0 | 433 | 141.2 | 14.8 |
| 503 | 97.1 | 4.6 | 503 | 124.6 | 5.6 | 503 | 141.3 | 15.1 |
| 573 | 174.9 | 3.9 | 573 | 131.8 | 5.7 | 573 | 141.8 | 11.3 |
| 637 | 164.0 | 7.3 | 637 | 132.9 | 5.6 | 637 | 141.0 | 9.2 |
| 701 | 157.4 | 7.8 | 701 | 123.2 | 5.2 | 701 | 140.9 | 4.4 |
| 765 | 183.0 | 6.8 | 765 | 101.7 | 3.8 | 765 | 151.0 | 3.4 |
| 829 | 189.3 | 7.2 | 829 | 84.8 | 3.4 | 829 | 154.8 | 5.8 |
| 893 | 193.0 | 7.0 | 893 | 84.8 | 3.2 | 893 | 151.3 | 7.6 |

Experiment No. 27

10 October 1964 — Release Site B — Tracer Release from 1130 to 1230 CST

| Ascension No. 1 Begin: 1033 CST | | | Ascension No. 2 Begin: 1135 CST | | | Ascension No. 3 Begin: 1233 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 041.1 | 3.9 | 76 | 074.2 | 5.0 | 76 | 010.0 | 4.2 |
| 152 | 037.8 | 3.8 | 152 | 061.5 | 4.5 | 152 | 016.7 | 4.3 |
| 223 | 035.0 | 3.6 | 223 | 054.4 | 3.1 | 223 | 019.8 | 5.2 |
| 293 | 042.1 | 3.2 | 293 | 065.4 | 1.8 | 293 | 023.7 | 5.3 |
| 363 | 046.1 | 2.4 | 363 | 060.5 | 1.1 | 363 | 032.1 | 4.0 |
| 433 | 037.0 | 2.2 | 433 | 056.9 | 2.0 | 433 | 039.3 | 3.6 |
| 503 | 033.6 | 2.2 | 503 | 040.0 | 3.0 | 503 | 030.2 | 3.5 |
| 573 | 021.4 | 2.2 | 573 | 030.3 | 3.4 | 573 | 040.9 | 3.6 |
| 637 | 026.5 | 3.3 | 637 | 035.9 | 3.1 | 637 | 065.1 | 3.8 |
| 701 | 030.6 | 4.0 | 701 | 042.0 | 3.6 | 701 | 071.9 | 3.4 |
| 765 | 030.3 | 3.8 | 765 | 041.0 | 4.1 | 765 | 069.0 | 2.4 |
| 829 | 030.0 | 2.0 | 829 | 040.4 | 4.0 | 829 | 081.1 | 1.6 |

Experiment No. 28

11 October 1964 — Release Site B — Tracer Release from 1105 to 1205 CST

| Ascension No. 1 Begin: 1050 CST | | | Ascension No. 2 Begin: 1210 CST | | |
|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 75 | 147.5 | 2.9 | 76 | 136.1 | 2.3 |
| 152 | 153.7 | 4.6 | 152 | 153.0 | 2.1 |
| 223 | 152.3 | 6.0 | 223 | 141.5 | 2.6 |
| 293 | 152.3 | 7.1 | 293 | 136.2 | 3.8 |
| 363 | 151.8 | 6.9 | 363 | 139.8 | 4.0 |
| 433 | 144.8 | 5.2 | 433 | 144.8 | 4.0 |
| 503 | 123.5 | 2.8 | 503 | 150.2 | 4.8 |
| 573 | 100.8 | 3.7 | 573 | 148.0 | 4.7 |
| 637 | 115.2 | 3.0 | 637 | 139.0 | 4.6 |
| 701 | 118.0 | 4.4 | 701 | 137.2 | 5.7 |
| 765 | 126.9 | 5.4 | 765 | 140.0 | 6.7 |
| 829 | 127.8 | 6.0 | 829 | 143.4 | 7.2 |

Experiment No. 29

12 October 1964 — Release Site A — Tracer Release from 2000 to 2100 CST

| Ascension No. 1 Begin: 1741 CST | | | Ascension No. 2 Begin: 2007 CST | | | Ascension No. 3 Begin: 2109 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 321.9 | 5.0 | 76 | 334.3 | 5.6 | 76 | 349.2 | 5.7 |
| 152 | 321.9 | 5.4 | 152 | 337.3 | 6.8 | 152 | 351.6 | 8.0 |
| 223 | 326.6 | 5.3 | 223 | 341.0 | 6.6 | 223 | 350.8 | 9.0 |
| 293 | 326.0 | 4.2 | 293 | 341.6 | 7.7 | 293 | 352.2 | 8.4 |
| 363 | 325.6 | 3.0 | 363 | 341.0 | 8.7 | 363 | 355.1 | 6.8 |
| 433 | 324.9 | 2.5 | 433 | 343.3 | 7.3 | 433 | 355.1 | 5.1 |
| 503 | 309.3 | 2.2 | 503 | 343.2 | 5.9 | 503 | 346.1 | 3.6 |
| 573 | 286.1 | 2.0 | 573 | 311.1 | 4.4 | 573 | 350.9 | 2.5 |
| 637 | 258.7 | 2.0 | 637 | 287.1 | 3.8 | 637 | 321.8 | 1.7 |
| 701 | 251.7 | 2.2 | 701 | 314.1 | 3.4 | 701 | 292.9 | 1.4 |
| 765 | 237.7 | 2.6 | 765 | 304.9 | 4.5 | 765 | 257.5 | 1.1 |
| 829 | 225.2 | 1.6 | 829 | 295.0 | 5.1 | 829 | 236.1 | 1.6 |

# Table 8 (continued). PILOT BALLOON MEASUREMENTS

Experiment No. 30

16 October 1964 — Release Site B — Tracer Release from 2000 to 2100 CST

| Ascension No. 1 Begin: 1906 CST | | | Ascension No. 2 Begin: 2005 CST | | | Ascension No. 3 Begin: 2108 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 118.7 | 2.0 | 76 | 170.9 | 3.6 | 76 | 181.2 | 3.8 |
| 152 | 104.3 | 1.5 | 152 | 157.0 | 2.7 | 152 | 168.3 | 3.3 |
| 223 | 78.3 | 1.0 | 223 | 161.2 | 2.4 | 223 | 162.2 | 2.8 |
| 293 | 82.0 | 1.0 | 293 | 158.0 | 1.5 | 293 | 156.7 | 1.8 |
| 363 | 77.3 | 1.0 | 363 | 120.0 | 0.7 | 363 | 135.5 | 1.0 |
| 433 | 46.8 | 1.1 | 433 | 77.0 | 0.7 | 433 | 088.8 | 0.4 |
| 503 | 24.0 | 1.5 | 503 | 45.3 | 0.8 | 503 | 231.3 | 0.5 |
| 573 | 14.2 | 1.8 | 573 | 14.0 | 1.0 | 573 | 185.9 | 0.6 |
| 637 | 11.3 | 1.2 | 637 | 346.0 | 1.2 | 637 | 143.8 | 1.2 |
| 701 | 357.1 | 2.0 | 701 | 327.8 | 0.9 | 701 | 252.2 | 4.0 |
| 765 | 342.8 | 2.6 | 765 | 291.2 | 1.0 | 765 | 266.3 | 5.4 |
| 829 | 330.3 | 1.2 | 829 | 276.6 | 1.2 | 829 | 269.7 | 2.5 |

Experiment No. 31

17 October 1964 — Release Site A — Tracer Release from 1315 to 1415 CST

| Ascension No. 1 Begin: 1239 CST | | | Ascension No. 2 Begin: 1328 CST | | | Ascension No. 3 Begin: 1421 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 152.9 | 4.5 | 76 | 150.9 | 4.6 | 76 | 161.6 | 6.8 |
| 152 | 161.6 | 4.6 | 152 | 152.7 | 5.5 | 152 | 162.3 | 11.0 |
| 223 | 171.8 | 4.2 | 223 | 152.9 | 6.2 | 223 | 160.1 | 10.7 |
| 293 | 169.0 | 4.4 | 293 | 153.4 | 7.0 | 293 | 160.1 | 5.3 |
| 363 | 197.7 | 3.6 | 363 | 148.8 | 7.3 | 363 | 183.6 | 4.1 |
| 433 | 157.4 | 3.6 | 433 | 146.0 | 8.0 | 433 | 188.2 | 6.3 |
| 503 | 151.0 | 6.0 | 503 | 148.3 | 9.4 | 503 | 186.7 | 8.2 |
| 573 | 151.3 | 6.0 | 573 | 148.6 | 8.4 | 573 | 184.7 | 10.0 |
| 637 | 151.0 | 5.2 | 637 | 149.2 | 5.4 | 637 | 190.1 | 8.6 |
| 701 | 149.6 | 4.8 | 701 | 160.2 | 4.2 | 701 | 189.8 | 7.1 |
| 765 | 154.3 | 4.2 | 765 | 166.3 | 4.3 | 765 | 180.3 | 6.8 |
| 829 | 159.1 | 4.3 | 829 | 169.2 | 3.9 | 829 | 174.9 | 5.6 |

Experiment No. 32

19 October 1964 — Release Site A — Tracer Release from 1945 to 2045 CST

| Ascension No. 1 Begin: 1803 CST | | | Ascension No. 2 Begin: 1955 CST | | | Ascension No. 3 Begin: 2050 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 313.8 | 4.6 | 76 | 333.1 | 4.1 | 76 | 311.7 | 4.9 |
| 152 | 315.5 | 4.8 | 152 | 339.8 | 4.8 | 152 | 313.6 | 6.2 |
| 223 | 311.7 | 6.8 | 223 | 339.8 | 6.0 | 223 | 316.2 | 6.6 |
| 293 | 313.1 | 8.6 | 293 | 341.2 | 7.0 | 293 | 317.3 | 7.0 |
| 363 | 315.8 | 10.1 | 363 | 340.0 | 7.4 | 363 | 320.3 | 8.4 |
| 433 | 317.8 | 11.5 | 433 | 339.5 | 8.2 | 433 | 324.2 | 8.6 |
| 503 | 323.1 | 11.8 | 503 | 340.7 | 8.6 | 503 | 326.7 | 8.5 |
| 573 | 327.4 | 11.0 | 573 | 337.3 | 7.9 | 573 | 330.2 | 8.8 |
| 637 | 326.7 | 11.2 | 637 | 335.5 | 7.0 | 637 | 330.9 | 9.6 |
| 701 | 326.7 | 11.4 | 701 | 333.2 | 6.6 | 701 | 335.9 | 10.3 |
| 765 | 338.3 | 10.3 | 765 | 330.0 | 6.2 | 765 | 343.0 | 10.9 |
| 829 | 348.6 | 10.2 | 829 | 330.0 | 6.0 | 829 | 340.3 | 10.4 |

Experiment No. 33

October 20, 1964 — Release Site A — Tracer Release from 1915 to 2015 CST

| Ascension No. 1 Begin: 1817 CST | | | Ascension No. 2 Begin: 1922 CST | | | Ascension No. 3 Begin: 2017 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 207.2 | 6.2 | 76 | 203.2 | 7.0 | 76 | 204.8 | 6.8 |
| 152 | 214.5 | 8.0 | 152 | 208.8 | 11.6 | 152 | 204.8 | 11.8 |
| 223 | 220.3 | 10.2 | 223 | 215.9 | 14.8 | 223 | 211.8 | 16.6 |
| 293 | 224.4 | 11.0 | 293 | 225.1 | 16.8 | 293 | 223.0 | 18.8 |
| 363 | 227.8 | 13.3 | 363 | 229.0 | 17.5 | 363 | 231.9 | 18.7 |
| 433 | 230.9 | 15.3 | 433 | 231.8 | 18.6 | 433 | 237.2 | 20.0 |
| 503 | 234.2 | 15.2 | 503 | 233.3 | 20.2 | 503 | 239.9 | 22.4 |
| 573 | 234.1 | 15.9 | 573 | 228.8 | 20.8 | 573 | 234.3 | 22.8 |
| 637 | 235.2 | 15.8 | 637 | 229.0 | 21.6 | 637 | 237.3 | 23.5 |
| 701 | 235.6 | 16.0 | 701 | 232.2 | 20.3 | 701 | 241.2 | 23 7 |
| 765 | 234.3 | 18.7 | 765 | 236.0 | 20.8 | 765 | 239.8 | 24.3 |
| 829 | 234.3 | 18.0 | 829 | 237.0 | 22.6 | 829 | 242.0 | 25 0 |

# Table 8 (continued). PILOT BALLOON MEASUREMENTS

Experiment No. 34
October 21, 19-- Release Site Tracer Release from 1920 to 2020 CST

| Ascension No. 1 Begin: 1800 CST | | | Ascension No. 2 Begin: 1925 CST | | | Ascension No. 3 Begin: 2020 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 5.9 | 10.8 | 76 | 13.6 | 6.5 | 76 | 10.3 | 5.3 |
| 152 | 7.1 | 11.0 | 152 | 16.7 | 11.4 | 152 | 12.9 | 13.6 |
| 223 | 9.0 | 9.5 | 223 | 15.8 | 19.7 | 223 | 17.8 | 16.6 |
| 293 | 6.8 | 12.1 | 293 | 14.2 | 18.2 | 293 | 13.0 | 17.7 |
| 363 | 6.8 | 12.7 | 363 | 14.0 | 17.1 | 363 | 8.8 | 17.3 |
| 433 | 5.5 | 10.9 | 433 | 12.8 | 17.5 | 433 | 9.2 | 19.8 |
| 503 | 2.1 | 10.6 | 503 | 11.8 | 18.0 | 503 | 11.3 | 20.1 |
| 573 | 1.6 | 11.3 | 573 | 3.9 | 18.7 | 573 | 11.2 | 21.3 |
| 637 | 357.9 | 12.7 | 637 | 8.0 | 17.2 | 637 | 11.1 | 20.5 |
| 701 | 352.1 | 13.1 | 701 | 8.0 | 18.2 | 701 | 11.1 | 19.3 |
| 765 | 350.7 | 13.5 | 765 | 7.3 | 19.3 | 765 | 11.6 | 17.5 |
| 829 | 350.2 | 14.2 | 829 | 5.1 | 20.0 | 829 | 13.0 | 15.2 |

Experiment No. 35
March 6, 1965 Release Site A Tracer Release from 1230 to 1330 CST

| Ascension No. 1 Begin: 1141 CST | | | Ascension No. 2 Begin: 1300 CST | | | Ascension No. 3 Begin: 1335 CST | | | Ascension No. 4 Begin: 1340 CST | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 299.0 | 8.2 | 76 | 297.1 | 9.4 | 76 | 294.3 | 4.4 | 76 | 289.6 | 14.4 |
| 152 | 288.0 | 11.2 | 152 | 298.0 | 11.3 | 152 | 297.8 | 4.8 | 152 | 291. | 18.6 |
| 223 | 284.2 | 11.2 | 223 | 296.9 | 11.8 | 223 | 302.1 | 3.1 | 223 | 294.8 | 18.2 |
| 293 | 284.0 | 10.8 | 293 | 295.3 | 11.3 | | | | 293 | 296.0 | 20.3 |
| 363 | 285.0 | 9.6 | 363 | 296.3 | 11.0 | | | | 363 | 297.7 | 20.6 |
| 433 | 290.3 | 8.6 | 433 | 297.7 | 12.3 | | | | 433 | 302.5 | 18.4 |
| | | | 503 | 298.4 | 13.3 | | | | 503 | 314.8 | 7.5 |
| | | | 573 | 299.6 | 12.8 | | | | 573 | 309.0 | 4.8 |
| | | | | | | | | | 637 | 293.7 | 3.6 |

Experiment No. 36
March 7, 1965 Release Site A Tracer Release from 1230 to 1330 CST

| Ascension No. 1 Begin: 1110 CST | | | Ascension No. 2 Begin: 1232 CST | | | Ascension No. 3 Begin: 1301 CST | | | Ascension No. 4 Begin: 1331 CST | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 335.5 | 5.5 | 76 | 338.4 | 3.2 | 76 | 341.0 | 8.9 | 76 | 329.9 | 8.0 |
| 152 | 340.0 | 5.8 | 152 | 345.8 | 5.7 | 152 | 339.2 | 11.2 | 152 | 342.5 | 6.8 |
| 223 | 344.9 | 5.2 | 223 | 348.0 | 7.7 | 223 | 337.0 | 11.1 | 223 | 338.0 | 5.6 |
| 293 | 352.2 | 4.1 | 293 | 348.1 | 8.8 | 293 | 334.1 | 12.2 | 293 | 333.5 | 4.6 |
| | | | 363 | 347.7 | 9.0 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 4.0 |
| | | | 433 | 348.3 | 8.4 | 433 | 337.8 | 7.4 | [illegible] | 347.1 | 4.4 |
| | | | 503 | 348.1 | 7.0 | 503 | 330.8 | 6.0 | 503 | 349.1 | 4.8 |
| | | | 573 | 347.9 | 6.4 | 573 | 324.8 | 5.9 | | | |

Experiment No. 37
March 8, 1965 Release Site A Tracer Release from 2030 to 2130 CST

| Ascension No. 1 Begin: 1930 CST | | | Ascension No. 2 Begin: 2030 CST | | | Ascension No. 3 Begin: 2100 CST | | | Ascension No. 4 Begin: 2130 CST | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 279.0 | 5.7 | 76 | 292.7 | 6.4 | 76 | 280.2 | 6.3 | 76 | 292.3 | 4.2 |
| 152 | 283.6 | 8.8 | 152 | 289.9 | 8.3 | 152 | 289.7 | 9.0 | 152 | 296.7 | 6.5 |
| 223 | 279.0 | 9.0 | 223 | 292.3 | 9.2 | 223 | 291.7 | 8.8 | 223 | 297.4 | 9.4 |
| 293 | 284.9 | 10.3 | 293 | 292.0 | 9.3 | 293 | 297.7 | 10.3 | 293 | 299.1 | 11.5 |
| 363 | 285.5 | 13.3 | 363 | 296.5 | 9.4 | 363 | 301.2 | 13.4 | 363 | 300.1 | 12.2 |
| 433 | 286.8 | 12.5 | 433 | 302.3 | 10.3 | 433 | 301.2 | 13.4 | 433 | 301.7 | 12.8 |
| 503 | 289.0 | 11.6 | 503 | 303.4 | 12.1 | 503 | 304.0 | 13.3 | 503 | 302.5 | 13.7 |
| 573 | 292.8 | 13.7 | 573 | 303.4 | 12.7 | 573 | 305.4 | 12.2 | 573 | 303.8 | 13.0 |
| 637 | 297.1 | 16.6 | 637 | 302.9 | 12.6 | 637 | 302.8 | 11.5 | 637 | 302.0 | 12.7 |
| 701 | 296.8 | 18.2 | 701 | 304.5 | 14.0 | 701 | 300.0 | 12.4 | 701 | 301.3 | 14.6 |
| 765 | 292.2 | 18.6 | 765 | 304.4 | 15.6 | 765 | 297.0 | 12.8 | 765 | 301.1 | 14.3 |
| 829 | 292.2 | 18.4 | | | | 829 | 295.1 | 13.2 | 829 | 300.8 | 12.6 |

# Table 8 (continued). PILOT BALLOON MEASUREMENTS

Experiment No. 38
Release Site A
Tracer Release from 2030 to 2130 CST

March 11, 1965
Ascension No. 1
Begin: 2013 CST

| Z(m) | D(deg) | S(m/s) |
|---|---|---|
| 76 | 257.4 | 5.9 |
| 152 | 269.7 | 4.4 |
| 223 | 264.4 | 4.2 |
| 293 | 271.9 | 4.6 |
| 363 | 271.3 | 4.8 |
| 433 | 273.1 | 4.8 |
| 503 | 272.2 | 5.2 |
| 573 | 274.0 | 5.2 |
| 637 | 277.0 | 5.2 |
| 701 | 278.6 | 5.2 |
| 765 | 280.1 | 5.2 |
| 829 | 280.1 | 5.0 |

Ascension No. 2
Begin: 2056 CST

| Z(m) | D(deg) | S(m/s) |
|---|---|---|
| 76 | 307.8 | 4.6 |
| 152 | 311.5 | 5.1 |
| 223 | 315.6 | 4.6 |
| 293 | 313.2 | 4.9 |
| 363 | 302.8 | 4.3 |
| 433 | 303.8 | 5.0 |
| 503 | 304.6 | 4.8 |
| 573 | 284.0 | 3.3 |
| 637 | 270.6 | 3.3 |
| 701 | 266.7 | 4.0 |
| 765 | 271.9 | 4.2 |
| 829 | 287.7 | 4.0 |

Experiment No. 40
Release Site A
Tracer Release from 1100 to 1200 CST

March 3, 1965

Ascension No. 1
Begin: 1010 CST

| Z(m) | D(deg) | S(m/s) |
|---|---|---|
| 76 | 301.2 | 12.5 |
| 152 | 300.7 | 13.8 |
| 223 | 299.1 | 13.2 |
| 293 | 296.5 | 10.0 |
| 363 | 297.6 | 8.2 |
| 433 | 299.8 | 6.6 |
| 503 | 304.3 | 7.8 |
| 573 | 308.0 | 9.0 |
| 637 | 309.5 | 8.2 |
| 701 | 307.3 | 7.5 |
| 765 | 309.4 | 7.0 |
| 829 | 309.4 | 6.4 |

Ascension No. 2
Begin: 1101 CST

| Z(m) | D(deg) | S(m/s) |
|---|---|---|
| 76 | 293.8 | 2.8 |
| 152 | 301.8 | 4.4 |
| 223 | 300.5 | 3.2 |
| 293 | 296.0 | 4.5 |
| 363 | 295.5 | 5.8 |
| 433 | 304.7 | 6.9 |
| 503 | 311.7 | 7.6 |

Ascension No. 3
Begin: 1133 CST

| Z(m) | D(deg) | S(m/s) |
|---|---|---|
| 76 | 288.1 | 6.4 |
| 152 | 291.3 | 7.0 |
| 223 | 292.0 | 8.7 |
| 293 | 290.8 | 8.7 |
| 363 | 290.9 | 9.0 |
| 433 | 291.9 | 8.6 |
| 503 | 290.0 | 8.4 |
| 573 | 288.3 | 5.6 |
| 637 | 325.1 | 2.0 |
| 701 | 332.2 | 3.5 |
| 765 | 315.6 | 5.6 |
| 829 | 313.7 | 6.1 |

Ascension No. 4
Begin: 1203 CST

| Z(m) | D(deg) | S(m/s) |
|---|---|---|
| 76 | 310.8 | 7.8 |
| 152 | 313.0 | 10.4 |
| 223 | 313.5 | 9.0 |
| 293 | 311.8 | 10.0 |
| 363 | 310.8 | 10.8 |
| 433 | 306.1 | 7.2 |
| 503 | 299.0 | 4.9 |
| 573 | 292.3 | 5.6 |
| 637 | 290.2 | 8.0 |
| 701 | 294.2 | 10.4 |
| 765 | 294.6 | 13.8 |
| 829 | 292.2 | 13.4 |

Experiment No. 39
Release Site A
Tracer Release from 1220 to 1320 CST

March 13, 1965

Ascension No. 1
Begin: 1007 CST

| Z(m) | D(deg) | S(m/s) |
|---|---|---|
| 76 | 236.1 | 2.0 |
| 152 | 237.8 | 1.4 |
| 223 | 241.9 | 1.0 |
| 293 | 257.0 | 1.4 |
| 363 | 252.6 | 1.1 |
| 433 | 256.2 | 2.6 |
| 503 | 247.3 | 2.0 |
| 573 | 230.6 | 1.2 |
| 637 | 273.8 | 0.7 |
| 701 | 280.0 | 0.6 |
| 765 | 281.3 | 0.6 |
| 829 | 281.5 | 0.8 |

Ascension No. 2
Begin: 1222 CST

| Z(m) | D(deg) | S(m/s) |
|---|---|---|
| 76 | 333.3 | 1.8 |
| 152 | 341.6 | 1.8 |
| 223 | 342.1 | 2.1 |
| 293 | 327.0 | 2.2 |
| 363 | 327.2 | 2.5 |
| 433 | 305.1 | 2.8 |
| 503 | 277.5 | 2.9 |
| 573 | 253.5 | 2.4 |
| 637 | 236.2 | 3.0 |
| 701 | 248.4 | 3.7 |
| 765 | 246.2 | 4.4 |
| 829 | 241.2 | 4.7 |

Ascension No. 3
Begin: 1251 CST

| Z(m) | D(deg) | S(m/s) |
|---|---|---|
| 76 | 334.1 | 3.8 |
| 152 | 340.7 | 3.8 |
| 223 | 317.3 | 4.8 |
| 293 | 298.6 | 2.5 |
| 363 | 333.9 | 0.4 |
| 433 | 029.7 | 0.6 |
| 503 | 323.7 | 1.1 |
| 573 | 294.0 | 2.8 |
| 637 | 281.2 | 3.6 |
| 701 | 256.1 | 4.0 |
| 765 | 245.5 | 4.4 |
| 829 | 251.7 | 4.2 |

Ascension No. 4
Begin: 1322 CST

| Z(m) | D(deg) | S(m/s) |
|---|---|---|
| 76 | 328.2 | 1.2 |
| 152 | 321.8 | 3.0 |
| 223 | 308.1 | 3.0 |
| 293 | 308.1 | 2.0 |
| 363 | 246.3 | 0.7 |
| 433 | 229.9 | 1.4 |
| 503 | 231.7 | 2.4 |
| 573 | 240.2 | 3.7 |
| 637 | 239.0 | 3.7 |
| 701 | 227.5 | 3.8 |
| 765 | 226.0 | 4.2 |
| 829 | 230.2 | 4.6 |

Experiment No. 41
Release Site A
Tracer Release from 2050 to 2150 CST

March15, 1965

Ascenion No. 1
Begin 1902 CST

| Z(m) | D(deg) | S(m/s) |
|---|---|---|
| 76 | 330.0 | 4.2 |
| 152 | 329.2 | 4.0 |
| 223 | 330.1 | 5.0 |
| 293 | 327.1 | 7.0 |
| 363 | 325.3 | 7.7 |
| 433 | 323.4 | 7.3 |
| 503 | 320.9 | 7.8 |
| 573 | 316.5 | 6.4 |
| 637 | 308.7 | 6.2 |
| 701 | 302.3 | 6.7 |
| 765 | 298.3 | 5.2 |
| 829 | 294.7 | 3.6 |

Ascension No. 2
Begin: 2055 CST

| Z(m) | D(deg) | S(m/s) |
|---|---|---|
| 76 | 340.3 | 3.4 |
| 152 | 341.8 | 5.4 |
| 223 | 343.7 | 6.1 |
| 293 | 342.3 | 6.1 |
| 363 | 338.9 | 6.2 |
| 433 | 334.7 | 6.2 |
| 503 | 329.8 | 6.2 |
| 573 | 323.6 | 6.2 |
| 637 | 315.5 | 6.3 |
| 701 | 323.6 | 5.6 |
| 765 | 297.0 | 5.4 |
| 829 | 271.4 | 7.9 |

Ascension No. 3
Begin: 2123 CST

| Z(m) | D(deg) | S(m/s) |
|---|---|---|
| 76 | 349.1 | 4.0 |
| 152 | 342.2 | 5.3 |
| 223 | 348.0 | 5.4 |
| 293 | 356.0 | 4.9 |
| 363 | 353.6 | 4.2 |
| 433 | 339.9 | 4.0 |
| 503 | 326.6 | 4.6 |
| 573 | 310.8 | 4.8 |
| 637 | 295.6 | 4.6 |
| 701 | 280.8 | 4.6 |
| 765 | 269.2 | 5.3 |
| 829 | 259.0 | 5.8 |

Ascension No 4
Begin: 2154 CST

| Z(m) | D(deg) | S(m/s) |
|---|---|---|
| 76 | 343.1 | 4.3 |
| 152 | 343.7 | 6.4 |
| 223 | 344.1 | 6.8 |
| 293 | 348.9 | 6.1 |
| 363 | 359.3 | 5.6 |
| 433 | 356.0 | 4.8 |
| 503 | 337.8 | 4.6 |
| 573 | 324.0 | 4.8 |
| 637 | 304.0 | 5.0 |
| 701 | 290.3 | 5.2 |
| 765 | 281.7 | 6.4 |
| 829 | 278.6 | 7.2 |

# Table 8 (continued). PILOT BALLOON MEASUREMENTS

Experiment No. 42

March 16, 1965 Release Site B Tracer Release from 2030 to 2130 CST

| Ascension No. 1 Begin: 1950 CST | | | Ascension No. 2 Begin: 2050 CST | | | Ascension No. 3 Begin: 2015 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 107.9 | 10.3 | 76 | 114.0 | 11.5 | 76 | 124.2 | 9.6 |
| 152 | 111.2 | 12.1 | 152 | 119.5 | 15.0 | 152 | 125.5 | 15.0 |
| 223 | 116.1 | 12.0 | 223 | 122.2 | 14.1 | 223 | 128.6 | 18.2 |
| 293 | 124.2 | 13.9 | 293 | 125.8 | 15.6 | 293 | 133.0 | 16.6 |
| 363 | 130.1 | 18.3 | 363 | 123.5 | 27.2 | 363 | 131.8 | 15.0 |
| 433 | 134.0 | 21.8 | 433 | 119.4 | 32.2 | 433 | 131.1 | 16.8 |
| 503 | 138.2 | 22.2 | | | | | | |
| 573 | 132.5 | 23.5 | | | | | | |
| 637 | 139.3 | 22.5 | | | | | | |
| 701 | 139.2 | 22.9 | | | | | | |
| 765 | 136.1 | 23.5 | | | | | | |
| 829 | 137.7 | 22.2 | | | | | | |

Experiment No. 43

March 17, 1965 Release Site A Tracer Release from 2000 to 2100 CST

| Ascension No. 1 Begin: 2007 CST | | | Ascension No. 2 Begin: 2039 CST | | | Ascension No. 3 Begin: 2102 CST | | |
|---|---|---|---|---|---|---|---|---|
| Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) | Z(m) | D(deg) | S(m/s) |
| 76 | 288.7 | 7.5 | 76 | 294.3 | 7.2 | 76 | 271.8 | 13.4 |
| 152 | 284.8 | 8.2 | 152 | 292.5 | 6.4 | 152 | 271.0 | 19.0 |
| 223 | 286.4 | 10.0 | 223 | 288.1 | 8.0 | 223 | 272.0 | 20.0 |
| 293 | 283.0 | 9.8 | 293 | 288.8 | 9.0 | 293 | 273.7 | 14.4 |
| 363 | 278.8 | 9.9 | 363 | 285.6 | 9.4 | 363 | 095.2 | 4.2 |
| | | | 433 | 283.3 | 14.2 | 433 | 101.5 | 2.6 |
| | | | 503 | 286.2 | 19.0 | | | |
| | | | 573 | 285.3 | 20.2 | | | |
| | | | 637 | 286.6 | 19.8 | | | |
| | | | 701 | 290.2 | 20.0 | | | |

## RAWINSONDE MEASUREMENTS

Rawinsonde observations for Columbia, Missouri, and Peoria, Illinois, the two nearest regular Weather Bureau upper-air sounding stations, are presented in Table 9. The table includes the latest soundings taken before the beginning of the tracer dissemination and the earliest soundings following the end of the experiment. For afternoon experiments, the 12Z (0600 CST) and 00Z (1800 CST) soundings for the same day are given; for evening experiments, the 00Z (1800 CST) sounding and the 12Z (0600 CST) sounding for the next day are given. Only sounding data up to 700 mb are presented. The pressure, temperature, dewpoint, and height above MSL of each mandatory level and significant level are given as reported on WB Form 31-A. In addition, the wind direction and speed are listed for the surface and each 50 mb beginning with either 1000 or 950 mb. The methods, techniques, and procedures of data processing are presented in U. S. Weather Bureau (1964 c).

BLANK PAGE

TABLE 9. RAWINSONDE MEASUREMENTS

Symbols

| | | |
|---|---|---|
| P(mb) | : | Pressure in whole millibars |
| Z(m) | : | Height above MSL to the nearest whole meter for standard levels and to the nearest 10 meters for all other levels |
| T(°C) | : | Temperature to the nearest tenth of a degree Celsius |
| $T_d$(°C) | : | Dewpoint to the nearest tenth of a degree Celsius |
| D(deg) | : | Wind direction to the nearest whole degree of azimuth |
| S(m/s) | : | Wind speed in whole meters per second |
| MB | : | Motor boating - relative humidity too low to be accurately measured |
| - | : | Missing data |

Preceding page blank

# Table 9 (continued). RAWINSONDE MEASUREMENTS

27 May 1961 Experiment No. 2 Tracey Balloon: from 1410 to 1440 CST

Station: Columbia, Mo.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 980 | 238 | 15.8 | 15.8 | 070 | 2 |
| 950 | 510 | | | 107 | 5 |
| 900 | 959 | | | 091 | 3 |
| 850 | 1438 | 9.9 | 9.5 | 340 | 6 |
| 800 | 1941 | | | 352 | 3 |
| 769 | 2260 | 6.3 | 2.8 | | |
| 750 | 2470 | | | 006 | 7 |
| 700 | 3031 | 2.0 | - 0.6 | 001 | 3 |

Station: Peoria, Ill.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 988 | 200 | 14.4 | 13.3 | 060 | 4 |
| 950 | 530 | | | 106 | 9 |
| 900 | 987 | | | 136 | 11 |
| 850 | 1466 | 10.6 | 9.7 | 149 | 7 |
| 800 | 1969 | | | 145 | 8 |
| 750 | 2510 | | | 151 | 10 |
| 700 | 3093 | 2.3 | 1.6 | 159 | 7 |

29 May 1961 Experiment No. 3 Tracey Balloon: from 1000 to 1130 CST

Station: Columbia, Mo.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 983 | 238 | 15.2 | 14.6 | 280 | 4 |
| 950 | 520 | | | 296 | 10 |
| 900 | 981 | | | 302 | 13 |
| 870 | 1290 | 9.0 | 7.2 | | |
| 850 | 1458 | 11.9 | 7.7 | 290 | 14 |
| 816 | 1690 | 10.3 | 3.1 | | |
| 800 | 1843 | | | 290 | 12 |
| 770 | 2138 | 5.8 | 1.6 | | |
| 750 | 2490 | | | 295 | 12 |
| 700 | 3054 | 1.6 | - 3.5 | 287 | 11 |

Station: Peoria, Ill.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 986 | 200 | 12.0 | 12.2 | 070 | 2 |
| 950 | 530 | 16.4 | 14.7 | | |
| 950 | 530 | | | 181 | 2 |
| 900 | 975 | | | 240 | 9 |
| 850 | 1456 | 11.0 | 9.6 | 241 | 6 |
| 800 | 1960 | | | 259 | 7 |
| 750 | 2500 | 5.0 | 3.5 | 235 | 9 |
| 700 | 3050 | 1.4 | - 0.3 | 241 | 11 |

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 980 | 238 | 24.4 | 17.1 | 190 | 3 |
| 950 | 500 | | | 205 | 4 |
| 900 | 979 | | | 230 | 7 |
| 850 | 1466 | 14.6 | 9.8 | 240 | 9 |
| 804 | 1900 | 10.6 | 6.7 | | |
| 800 | 1975 | | | 266 | 11 |
| 750 | 2490 | | | 264 | 14 |
| 720 | 2832 | 4.7 | - 2.6 | | |
| 700 | 3075 | 3.8 | - 7.6 | 272 | 16 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 986 | 200 | 17.8 | 16.7 | 335 | 3 |
| 950 | 510 | | | 290 | 3 |
| 900 | 980 | | | 262 | 6 |
| 850 | 1459 | 11.0 | 9.3 | 259 | 5 |
| 810 | 1855 | 8.8 | 7.1 | | |
| 800 | 1963 | | | 170 | 9 |
| 750 | 2500 | | | 186 | 8 |
| 700 | 3053 | 1.9 | - 1.7 | 197 | 11 |

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 987 | 238 | 19.4 | 15.9 | 330 | 8 |
| 950 | 570 | | | 298 | 11 |
| 900 | 1085 | | | 291 | 9 |
| 850 | 1569 | 9.5 | 8.0 | 300 | 10 |
| 800 | 2069 | | | 313 | 9 |
| 773 | 2390 | 5.0 | - 4.8 | | |
| 755 | 2570 | 5.1 | -10.6 | | |
| 750 | 2630 | | | 325 | 13 |
| 737 | 2770 | 7.4 | [illegible] | | |
| 700 | 3150 | 5.8 | [illegible] | 320 | 14 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 990 | 200 | 18.9 | 15.6 | 305 | 5 |
| 950 | 595 | | | 302 | 6 |
| 900 | 1010 | | | 310 | 9 |
| 850 | 1496 | 10.1 | 8.3 | 287 | 10 |
| 800 | 1991 | 6.8 | 5.3 | 273 | 4 |
| 750 | 2510 | | | 291 | 10 |
| 700 | 3082 | 2.0 | - 2.5 | 290 | 14 |

## Table 9 (continued). RAWINSONDE MEASUREMENTS

| p (mb) | z (m) | T (°C) | $T_d$ (°C) | WD (deg) | WS (m/s) |
|---|---|---|---|---|---|
| 1000 | 238 | 24.7 | 21.0 | 120 | 3 |
| 975 | 450 | 25.4 | 20.4 | 120 | 5 |
| 950 | 700 | 25.4 | 17.9 | 120 | 8 |
| 925 | 942 | 25.2 | 16.2 | 120 | 10 |
| 900 | 1191 | 25.4 | 16.5 | 120 | 10 |
| 850 | 1702 | 23.2 | 5.0 | 120 | 10 |
| 817 | 1986 | 22.1 | 4.1 | | |
| 800 | 2140 | 21.0 | 0.7 | | |
| 775 | 2351 | 19.5 | < -1.0 | | |
| 700 | 3014 | | | 110 | 12 |
| 687 | 3140 | 17.4 | < -3.6 | | |
| 650 | 3556 | 16.4 | < -9.7 | 100 | 15 |
| 600 | 4116 | | | 100 | 15 |
| 550 | 4716 | 10.4 | < -20.6 | 100 | 15 |
| 500 | 5359 | 5.4 | < -34.6 | 100 | 15 |
| 450 | 6060 | 0.2 | < -47.8 | 100 | 15 |
| 400 | 6834 | -5.4 | < -61.0 | 100 | 15 |
| 350 | 7700 | -12.0 | < -74.2 | 100 | 15 |
| 300 | 8680 | -20.0 | < -87.4 | 100 | 15 |
| 250 | 9810 | -30.0 | < -100.6 | 100 | 15 |
| 200 | 11160 | -42.0 | < -113.8 | 100 | 15 |
| 150 | 12830 | -56.0 | < -127.0 | 100 | 15 |
| 100 | 14980 | -74.0 | < -140.2 | 100 | 15 |
| 70 | 16600 | -86.0 | < -153.4 | 100 | 15 |
| 50 | 17900 | -94.0 | < -166.6 | 100 | 15 |
| 30 | 19600 | -102.0 | < -179.8 | 100 | 15 |
| 20 | 20900 | -110.0 | < -193.0 | 100 | 15 |

| p (mb) | z (m) | T (°C) | $T_d$ (°C) | WD (deg) | WS (m/s) |
|---|---|---|---|---|---|
| 1000 | 238 | 24.7 | 21.0 | 120 | 3 |
| 975 | 450 | 25.4 | 20.4 | 120 | 5 |
| 950 | 700 | 25.4 | 17.9 | 120 | 8 |
| 925 | 942 | 25.2 | 16.2 | 120 | 10 |
| 900 | 1191 | 25.4 | 16.5 | 120 | 10 |
| 850 | 1702 | 23.2 | 5.0 | 120 | 10 |
| 817 | 1986 | 22.1 | 4.1 | | |
| 800 | 2140 | 21.0 | 0.7 | | |
| 775 | 2351 | 19.5 | < -1.0 | | |
| 700 | 3014 | | | 110 | 12 |
| 687 | 3140 | 17.4 | < -3.6 | | |
| 650 | 3556 | 16.4 | < -9.7 | 100 | 15 |
| 600 | 4116 | | | 100 | 15 |
| 550 | 4716 | 10.4 | < -20.6 | 100 | 15 |
| 500 | 5359 | 5.4 | < -34.6 | 100 | 15 |
| 450 | 6060 | 0.2 | < -47.8 | 100 | 15 |
| 400 | 6834 | -5.4 | < -61.0 | 100 | 15 |
| 350 | 7700 | -12.0 | < -74.2 | 100 | 15 |
| 300 | 8680 | -20.0 | < -87.4 | 100 | 15 |
| 250 | 9810 | -30.0 | < -100.6 | 100 | 15 |
| 200 | 11160 | -42.0 | < -113.8 | 100 | 15 |
| 150 | 12830 | -56.0 | < -127.0 | 100 | 15 |
| 100 | 14980 | -74.0 | < -140.2 | 100 | 15 |
| 70 | 16600 | -86.0 | < -153.4 | 100 | 15 |
| 50 | 17900 | -94.0 | < -166.6 | 100 | 15 |
| 30 | 19600 | -102.0 | < -179.8 | 100 | 15 |
| 20 | 20900 | -110.0 | < -193.0 | 100 | 15 |

| p (mb) | z (m) | T (°C) | $T_d$ (°C) | WD (deg) | WS (m/s) |
|---|---|---|---|---|---|
| 1000 | 238 | 24.7 | 21.0 | 120 | 3 |
| 975 | 450 | 25.4 | 20.4 | 120 | 5 |
| 950 | 700 | 25.4 | 17.9 | 120 | 8 |
| 925 | 942 | 25.2 | 16.2 | 120 | 10 |
| 900 | 1191 | 25.4 | 16.5 | 120 | 10 |
| 850 | 1702 | 23.2 | 5.0 | 120 | 10 |
| 817 | 1986 | 22.1 | 4.1 | | |
| 800 | 2140 | 21.0 | 0.7 | | |
| 775 | 2351 | 19.5 | < -1.0 | | |
| 700 | 3014 | | | 110 | 12 |
| 687 | 3140 | 17.4 | < -3.6 | | |
| 650 | 3556 | 16.4 | < -9.7 | 100 | 15 |
| 600 | 4116 | | | 100 | 15 |
| 550 | 4716 | 10.4 | < -20.6 | 100 | 15 |
| 500 | 5359 | 5.4 | < -34.6 | 100 | 15 |
| 450 | 6060 | 0.2 | < -47.8 | 100 | 15 |
| 400 | 6834 | -5.4 | < -61.0 | 100 | 15 |
| 350 | 7700 | -12.0 | < -74.2 | 100 | 15 |
| 300 | 8680 | -20.0 | < -87.4 | 100 | 15 |
| 250 | 9810 | -30.0 | < -100.6 | 100 | 15 |
| 200 | 11160 | -42.0 | < -113.8 | 100 | 15 |
| 150 | 12830 | -56.0 | < -127.0 | 100 | 15 |
| 100 | 14980 | -74.0 | < -140.2 | 100 | 15 |
| 70 | 16600 | -86.0 | < -153.4 | 100 | 15 |
| 50 | 17900 | -94.0 | < -166.6 | 100 | 15 |
| 30 | 19600 | -102.0 | < -179.8 | 100 | 15 |
| 20 | 20900 | -110.0 | < -193.0 | 100 | 15 |

| p (mb) | z (m) | T (°C) | $T_d$ (°C) | WD (deg) | WS (m/s) |
|---|---|---|---|---|---|
| 1000 | 238 | 24.7 | 21.0 | 120 | 3 |
| 975 | 450 | 25.4 | 20.4 | 120 | 5 |
| 950 | 700 | 25.4 | 17.9 | 120 | 8 |
| 925 | 942 | 25.2 | 16.2 | 120 | 10 |
| 900 | 1191 | 25.4 | 16.5 | 120 | 10 |
| 850 | 1702 | 23.2 | 5.0 | 120 | 10 |
| 817 | 1986 | 22.1 | 4.1 | | |
| 800 | 2140 | 21.0 | 0.7 | | |
| 775 | 2351 | 19.5 | < -1.0 | | |
| 700 | 3014 | | | 110 | 12 |
| 687 | 3140 | 17.4 | < -3.6 | | |
| 650 | 3556 | 16.4 | < -9.7 | 100 | 15 |
| 600 | 4116 | | | 100 | 15 |
| 550 | 4716 | 10.4 | < -20.6 | 100 | 15 |
| 500 | 5359 | 5.4 | < -34.6 | 100 | 15 |
| 450 | 6060 | 0.2 | < -47.8 | 100 | 15 |
| 400 | 6834 | -5.4 | < -61.0 | 100 | 15 |
| 350 | 7700 | -12.0 | < -74.2 | 100 | 15 |
| 300 | 8680 | -20.0 | < -87.4 | 100 | 15 |
| 250 | 9810 | -30.0 | < -100.6 | 100 | 15 |
| 200 | 11160 | -42.0 | < -113.8 | 100 | 15 |
| 150 | 12830 | -56.0 | < -127.0 | 100 | 15 |
| 100 | 14980 | -74.0 | < -140.2 | 100 | 15 |
| 70 | 16600 | -86.0 | < -153.4 | 100 | 15 |
| 50 | 17900 | -94.0 | < -166.6 | 100 | 15 |
| 30 | 19600 | -102.0 | < -179.8 | 100 | 15 |
| 20 | 20900 | -110.0 | < -193.0 | 100 | 15 |

## Table 9 (continued). RAWINSONDE MEASUREMENTS

[illegible]

[illegible]

[illegible]

[illegible]

# Table 9 (continued). RAWINSONDE MEASUREMENTS

16 July 1967 — Experiment No. 8 — Sunset Balloon: from 1809 to 1905 CST

Station: Columbia, Mo.
Ascension Start: 0400 CST

| P(mb) | H(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 988 | 238 | 30.6 | 18.8 | 190 | 3 |
| 973 | 330 | 28.9 | 18.7 | | |
| 950 | 500 | | | 181 | 10 |
| 900 | 1041 | | | 188 | 10 |
| 875 | 1290 | 24.7 | 10.7 | | |
| 850 | 1549 | 23.6 | 9.2 | 172 | 9 |
| 800 | 2023 | | | 169 | 8 |
| 750 | 2560 | | | 164 | 6 |
| 708 | 2950 | 9.0 | 5.0 | | |
| 700 | 3038 | 7.2 | 2.5 | 147 | 5 |

Station: Peoria, Ill.
Ascension Start: 0400 CST

| P(mb) | H(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 998 | 200 | 30.6 | 18.3 | 190 | 2 |
| 984 | 320 | 29.2 | 17.5 | | |
| 950 | 620 | | | 182 | 9 |
| 900 | 1090 | | | 196 | 8 |
| 850 | 1585 | 25.3 | 11.9 | 173 | 7 |
| 800 | 2098 | 22.0 | 9.0 | 169 | 7 |
| 750 | 2630 | | | 163 | 9 |
| 717 | 3010 | 8.1 | 4.5 | | |
| 700 | 3249 | 7.5 | 2.0 | 158 | 8 |

17 September 1967 — Experiment No. 9 — Sunset Balloon: from 1115 to 1215 CST

Station: Columbia, Mo.
Ascension Start: 0400 CST

| P(mb) | H(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 986 | 238 | 21.0 | 20.1 | 230 | 4 |
| 950 | 560 | | | 284 | 11 |
| 915 | 886 | 23.5 | 16.5 | | |
| 900 | 1038 | | | 310 | 12 |
| 850 | 1537 | 18.2 | 13.5 | 299 | 12 |
| 814 | 1980 | 18.0 | 12.6 | | |
| 800 | 2026 | | | 285 | 10 |
| 794 | 2160 | 15.4 | - 1.6 | | |
| 750 | 2630 | 13.0 | - 3.7 | | |
| 730 | 2780 | | | 294 | 13 |
| 700 | 3035 | 7.3 | - 5.1 | 303 | 15 |

Station: Peoria, Ill.
Ascension Start: 0400 CST

| P(mb) | H(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 986 | 200 | 20.6 | 18.3 | 290 | 6 |
| 953 | 500 | 20.2 | 18.2 | | |
| 950 | 510 | | | 304 | 15 |
| 929 | 700 | 23.5 | 17.7 | | |
| 900 | 987 | | | 295 | 15 |
| 850 | 1484 | 17.5 | 8.8 | 292 | 10 |
| 800 | 2001 | | | 283 | 14 |
| 790 | 2100 | 13.0 | 7.5 | | |
| 750 | 2530 | 10.9 | 6.3 | 277 | 20 |
| 700 | 3110 | 7.0 | - 0.5 | 271 | 23 |

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | H(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 988 | 238 | 30.0 | 15.6 | 190 | 9 |
| 969 | 420 | 27.6 | 14.9 | | |
| 950 | 580 | | | 195 | 11 |
| 900 | 1051 | | | 196 | 9 |
| 850 | 1555 | 23.3 | 12.6 | 197 | 7 |
| 810 | 1750 | 25.4 | 11.8 | | |
| 800 | 2069 | | | 180 | 6 |
| 750 | 2600 | | | 201 | 9 |
| 716 | 2960 | 10.0 | 0.2 | | |
| 714 | 3000 | 10.2 | - 1.8 | | |
| 700 | 3185 | 9.3 | - 2.6 | 180 | 8 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | H(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 996 | 220 | 28.9 | 19.4 | 170 | 5 |
| 982 | 330 | 27.7 | 17.2 | | |
| 950 | 640 | | | 180 | 8 |
| 900 | 1090 | | | 178 | 8 |
| 865 | 1420 | 17.6 | 14.1 | | |
| 850 | 1582 | 26.9 | 12.8 | 178 | 8 |
| 805 | 2040 | 24.5 | 8.6 | | |
| 800 | 2099 | | | 179 | 7 |
| 789 | 2210 | 24.4 | 3.9 | | |
| 750 | 2630 | | | 187 | 7 |
| 700 | 3217 | 8.1 | - 0.8 | 193 | 8 |

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | H(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 989 | 238 | 28.2 | 16.4 | 160 | 10 |
| 950 | 590 | | | 205 | 13 |
| 900 | 1047 | | | 241 | 11 |
| 856 | 1470 | 12.4 | 10.3 | | |
| 850 | 1530 | 12.7 | 9.9 | 231 | 8 |
| 820 | 1830 | 14.0 | 7.3 | | |
| 800 | 2042 | | | 224 | 9 |
| 781 | 2240 | 12.4 | 1.1 | | |
| 750 | 2590 | | | 203 | 11 |
| 706 | 3030 | 6.2 | - 2.5 | | |
| 700 | 3155 | 6.0 | - 3.4 | 211 | 14 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | H(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 995 | 200 | 13.9 | 10.6 | 600 | 8 |
| 983 | 310 | 13.9 | 8.4 | | |
| 950 | 600 | | | 626 | 13 |
| 904 | 1000 | 7.7 | 6.3 | | |
| 900 | 1034 | | | 030 | 11 |
| 850 | 1510 | 11.4 | 10.0 | | |
| 850 | 1582 | 10.6 | 9.2 | 002 | 10 |
| 800 | 2017 | | | 341 | 11 |
| 770 | 2340 | 8.0 | 7.0 | | |
| 750 | 2550 | | | 308 | 9 |
| 700 | 3127 | 3.9 | 1.8 | 320 | 7 |

# Table 9 (continued). RAWINSONDE MEASUREMENTS

14 September 1963 Experiment No. 10 Tracer Release from 1045 to 1145 CST

Station: Columbia, Mo.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 992 | 238 | 9.3 | 9.3 | 045 | 2 |
| 952 | 580 | 13.5 | 10.3 | | |
| 950 | 600 | | | 142 | 3 |
| 900 | 1053 | | | 164 | 7 |
| 861 | 1400 | 9.5 | 7.6 | | |
| 850 | 1530 | 10.4 | 7.4 | 148 | 4 |
| 838 | 1640 | 11.4 | 6.5 | | |
| 800 | 2036 | | | 128 | 7 |
| 760 | 2460 | 6.2 | - 2.0 | | |
| 750 | 2560 | | | 127 | 8 |
| 730 | 2750 | 6.2 | -13.3 | | |
| 700 | 3142 | 8.7 | MD | 108 | 7 |

Station: Peoria, Ill.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg), S(m/s) | |
|---|---|---|---|---|---|
| 1000 | 200 | 6.1 | 4.4 | 065 | 2 |
| 976 | 400 | 11.6 | 6.3 | | |
| 950 | 620 | | | 130 | 4 |
| 900 | 1075 | | | 165 | 1 |
| 897 | 1100 | 3.0 | 2.8 | | |
| 877 | 1300 | 12.1 | - 9.6 | | |
| 850 | 1552 | 13.5 | -11.1 | 132 | 3 |
| 800 | 2060 | | | 125 | 7 |
| 750 | 2600 | | | 115 | 7 |
| 720 | 2930 | 8.3 | MD | | |
| 700 | 3166 | 6.4 | MD | 135 | 6 |

16 September 1963 Experiment No. 11 Tracer Release from 1100 to 1200 CST

Station: Columbia, Mo.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 993 | 238 | 18.0 | 17.6 | 110 | 3 |
| 952 | 590 | 17.4 | 16.1 | | |
| 950 | 610 | | | 192 | 8 |
| 930 | 790 | 18.5 | 16.1 | | |
| 900 | 1082 | | | 202 | 5 |
| 850 | 1567 | 13.3 | 11.0 | 200 | 4 |
| 800 | 2075 | | | 218 | 6 |
| 775 | 2330 | 8.0 | 5.6 | | |
| 752 | 2580 | 7.8 | -10.0 | | |
| 750 | 2600 | | | 224 | 9 |
| 709 | 3050 | 7.8 | -14.5 | | |
| 700 | 3175 | 7.0 | - 8.3 | 206 | 7 |

Station: Peoria, Ill.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 1001 | 200 | 16.1 | 15.0 | 100 | 1 |
| 1000 | 209 | 16.3 | 15.0 | 100 | 1 |
| 974 | 440 | 20.0 | 16.3 | | |
| 950 | 650 | | | 210 | 4 |
| 900 | 1113 | | | 211 | 6 |
| 850 | 1597 | 12.3 | 10.5 | 208 | 8 |
| 800 | 2103 | | | 215 | 10 |
| 775 | 2370 | 7.3 | 3.5 | | |
| 750 | 2650 | | | 214 | 5 |
| 745 | 2700 | 9.7 | -13.5 | | |
| 700 | 3206 | 7.1 | MD | 205 | 4 |

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 990 | 238 | 23.1 | 12.7 | 110 | 4 |
| 950 | 590 | | | 129 | 6 |
| 900 | 1059 | | | 135 | 7 |
| 850 | 1542 | 11.0 | 7.5 | 151 | 7 |
| 830 | 1740 | 9.1 | 6.4 | | |
| 817 | 1880 | 11.7 | 7.5 | | |
| 800 | 2047 | | | 159 | 9 |
| 769 | 2380 | 11.6 | -12.0 | | |
| 750 | 2590 | | | 158 | 5 |
| 732 | 2780 | 8.0 | MB | | |
| 713 | 3000 | 9.7 | MB | | |
| 700 | 3155 | 8.5 | MB | 130 | 4 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 997 | 200 | 20.6 | 8.3 | 110 | 4 |
| 950 | 600 | | | 118 | 5 |
| 900 | 1072 | | | 130 | 5 |
| 882 | 1260 | 11.6 | 8.3 | | |
| 862 | 1440 | 14.7 | -10.2 | | |
| 850 | 1553 | 14.0 | - 8.1 | 132 | 6 |
| 816 | 1900 | 12.2 | - 3.6 | | |
| 800 | 2062 | | | 176 | 10 |
| 788 | 2200 | 11.7 | - 8.8 | | |
| 778 | 2300 | 13.0 | -10.8 | | |
| 750 | 2600 | | | 155 | 9 |
| 700 | 3173 | 7.6 | MB | 132 | 7 |

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 992 | 238 | 27.4 | 18.6 | 170 | 5 |
| 950 | 600 | | | 159 | 8 |
| 900 | 1093 | | | 159 | 9 |
| 850 | 1583 | 15.6 | 13.0 | 166 | 9 |
| 800 | 2096 | | | 178 | 9 |
| 750 | 2630 | | | 192 | 10 |
| 700 | 3206 | 5.6 | 3.4 | 203 | 8 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 1000 | 200 | 26.1 | 18.9 | 150 | 3 |
| 950 | 650 | | | 171 | 5 |
| 900 | 1120 | | | 175 | 7 |
| 850 | 1609 | 15.3 | 11.0 | 177 | 9 |
| 800 | 2121 | | | 182 | 9 |
| 750 | 2660 | 7.1 | 4.4 | 204 | 8 |
| 731 | 2870 | 6.4 | 2.5 | | |
| 711 | 3100 | 7.5 | -14.7 | | |
| 700 | 3225 | 7.0 | MB | 230 | 7 |

56 /.

## Table 9 (continued). RAWINSONDE MEASUREMENTS

17 September 1963 Experiment No. 12 Tracer Release from 2000 to 2030 CST

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 993 | 238 | 28.2 | 18.5 | 070 | 3 |
| 950 | 620 | | | 128 | 3 |
| 900 | 1105 | | | 181 | 4 |
| 850 | 1598 | 17.0 | 12.4 | 178 | 5 |
| 800 | 2112 | | | 193 | 7 |
| 758 | 2560 | 8.8 | 6.9 | | |
| 750 | 2640 | | | 201 | 7 |
| 730 | 2870 | 9.5 | 2.8 | | |
| 700 | 3219 | 6.6 | - 2.3 | 212 | 3 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 1001 | 200 | 26.1 | 18.3 | 240 | 2 |
| 1000 | 209 | 26.0 | 17.9 | 240 | 2 |
| 978 | 400 | 25.8 | 14.3 | | |
| 950 | 660 | | | 217 | 5 |
| 900 | 1129 | | | 211 | 5 |
| 850 | 1619 | 15.3 | 10.3 | 185 | 5 |
| 824 | 1890 | 13.0 | 9.1 | | |
| 800 | 2131 | | | 163 | 4 |
| 754 | 2640 | 10.2 | 5.0 | | |
| 750 | 2670 | | | 290 | 3 |
| 700 | 3243 | 7.0 | 2.1 | 258 | 2 |

18 September 1963 Experiment No. 13 Tracer Release from 2000 to 2100 CST

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 990 | 238 | 28.7 | 16.0 | 360 | 1 |
| 950 | 600 | | | 224 | 2 |
| 900 | 1075 | | | 208 | 3 |
| 850 | 1568 | 16.5 | 8.5 | 193 | 4 |
| 822 | 1840 | 13.8 | 6.7 | | |
| 803 | 2040 | 15.1 | - 6.5 | | |
| 800 | 2081 | | | 192 | 3 |
| 750 | 2620 | | | 024 | 1 |
| 744 | 2690 | 13.0 | MB | | |
| 732 | 2710 | 11.9 | - 8.6 | | |
| 700 | 3202 | 9.0 | 0.2 | 358 | 1 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 996 | 200 | 26.7 | 15.6 | 240 | 2 |
| 950 | 600 | | | 229 | 4 |
| 900 | 1084 | | | 196 | 4 |
| 850 | 1574 | 15.1 | 10.3 | 207 | 4 |
| 800 | 2087 | | | 266 | 4 |
| 752 | 2590 | 11.7 | 0.2 | | |
| 750 | 2610 | | | 294 | 6 |
| 726 | 2880 | 9.5 | 2.4 | | |
| 700 | 3204 | 7.8 | - 2.5 | 294 | 5 |

Station: Columbia, Mo.
Ascension Start: 0600 CST (18 Sept.)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 994 | 238 | 18.0 | 16.4 | 160 | 3 |
| 973 | 410 | 23.0 | 14.8 | | |
| 950 | 620 | | | 180 | 7 |
| 945 | 670 | 22.1 | 9.3 | | |
| 900 | 1096 | 18.0 | 10.6 | 172 | 4 |
| 850 | 1583 | 14.7 | 10.1 | 155 | 2 |
| 821 | 1860 | 12.6 | 9.4 | | |
| 800 | 2085 | | | 070 | 3 |
| 750 | 2610 | | | 055 | 3 |
| 707 | 3060 | 6.4 | 0.9 | | |
| 700 | 3192 | 6.1 | - 0.2 | 082 | 3 |

Station: Peoria, Ill.
Ascension Start: 0600 CST (18 Sept.)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 1000 | 200 | 16.7 | 14.4 | 160 | 3 |
| 980 | 380 | 23.5 | 13.9 | | |
| 950 | 630 | 21.6 | 8.8 | 229 | 7 |
| 900 | 1111 | | | 206 | 5 |
| 862 | 1460 | 15.2 | 9.1 | | |
| 850 | 1598 | 14.4 | 8.5 | 258 | 2 |
| 800 | 2108 | | | 304 | 1 |
| 777 | 2330 | 9.1 | 5.6 | | |
| 754 | 2600 | 9.4 | 4.0 | | |
| 750 | 2620 | | | 297 | 1 |
| 700 | 3215 | 6.5 | - 0.8 | 258 | 2 |

Station: Columbia, Mo.
Ascension Start: 0600 CST (19 Sept.)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 990 | 238 | 15.8 | 13.5 | 170 | 3 |
| 967 | 450 | 23.7 | 14.6 | | |
| 950 | 600 | | | 235 | 5 |
| 900 | 1061 | | | 250 | 4 |
| 855 | 1500 | 14.8 | 6.7 | | |
| 850 | 1548 | 15.1 | 3.0 | 252 | 3 |
| 836 | 1700 | 16.0 | - 9.8 | | |
| 800 | 2062 | | | 125 | 2 |
| 780 | 2280 | 14.1 | -11.4 | | |
| 762 | 2480 | 12.9 | 1.3 | | |
| 750 | 2600 | | | 120 | 2 |
| 700 | 3178 | 6.8 | - 4.3 | 235 | 2 |

Station: Peoria, Ill.
Ascension Start: 0600 CST (19 Sept.)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 995 | 200 | 15.6 | 13.9 | 170 | 2 |
| 980 | 330 | 22.8 | 15.4 | | |
| 955 | 560 | 23.8 | 11.1 | | |
| 950 | 600 | | | 261 | 7 |
| 900 | 1072 | 11.6 | 11.9 | 272 | 4 |
| 850 | 1562 | 16.7 | 9.6 | 283 | 2 |
| 800 | 2076 | | | 293 | 2 |
| 762 | 2480 | 11.0 | 5.7 | | |
| 750 | 2600 | | | 283 | 3 |
| 700 | 3188 | 7.4 | - 7.1 | 277 | 6 |

# Table 9 (continued). RAWINSONDE MEASUREMENTS

1 April 1964 Experiment No. 14 Tracer Release from 1200 to 1300 CST

Station: Columbia, Mo.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 987 | 238 | 2.2 | - 3.0 | 140 | 6 |
| 962 | 440 | 1.5 | - 5.0 | | |
| 950 | 540 | | | 151 | 12 |
| 941 | 620 | 10.4 | - 0.4 | | |
| 907 | 930 | 10.8 | - 4.4 | | |
| 900 | 998 | | | 184 | 11 |
| 850 | 1472 | 8.4 | 1.5 | 224 | 11 |
| 841 | 1550 | 8.1 | 2.3 | | |
| 800 | 1969 | | | 244 | 11 |
| 792 | 2040 | 3.6 | 0.0 | | |
| 750 | 2490 | | | 275 | 16 |
| 738 | 2600 | 1.6 | - 4.1 | | |
| 700 | 3047 | - 1.7 | - 6.2 | 301 | 16 |

Station: Peoria, Ill.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 998 | 200 | - 2.8 | - 6.1 | 130 | 5 |
| 950 | 580 | | | 150 | 10 |
| 914 | 890 | - 3.8 | -11.1 | | |
| 900 | 1020 | | | 175 | 4 |
| 898 | 1030 | 0.4 | -16.0 | | |
| 860 | 1390 | 3.0 | -17.8 | | |
| 850 | 1481 | 2.8 | -16.3 | 286 | 6 |
| 818 | 1790 | 2.0 | -10.9 | | |
| 800 | 1970 | | | 310 | 9 |
| 750 | 2490 | | | 312 | 13 |
| 746 | 2520 | - 4.1 | - 8.0 | | |
| 700 | 3026 | - 6.8 | -13.7 | 311 | 15 |

7 April 1964 Experiment No. 16 Tracer Release from 2048 to 2148 CST

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 989 | 238 | 6.1 | - 1.8 | 320 | 8 |
| 970 | 380 | 5.0 | - 3.1 | | |
| 950 | 550 | | | 312 | 10 |
| 900 | 1000 | | | 316 | 11 |
| 876 | 1210 | - 2.9 | - 6.4 | | |
| 850 | 1454 | - 4.4 | - 7.3 | 318 | 19 |
| 808 | 1850 | - 7.0 | - 9.4 | | |
| 800 | 1930 | | | 320 | 18 |
| 752 | 2410 | - 4.5 | -14.1 | | |
| 750 | 2440 | | | 303 | 12 |
| 700 | 2980 | - 4.6 | -16.5 | 276 | 18 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 991 | 200 | 5.0 | 0.6 | 300 | 8 |
| 965 | 400 | 2.1 | - 3.2 | | |
| 950 | 530 | | | 303 | 14 |
| 900 | 973 | | | 299 | 16 |
| 850 | 1424 | - 6.0 | - 8.0 | 299 | 14 |
| 808 | 1630 | - 7.9 | - 9.3 | | |
| 800 | 1897 | | | 299 | 15 |
| 794 | 1940 | - 8.8 | -10.3 | | |
| 767 | 2210 | - 7.4 | -10.8 | | |
| 750 | 2400 | | | 290 | 20 |
| 702 | 2910 | -10.6 | -27.3 | | |
| 700 | 2933 | -10.4 | MB | 273 | 23 |

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 977 | 238 | 21.0 | 8.6 | 170 | 9 |
| 950 | 480 | | | 176 | 12 |
| 900 | 940 | | | 188 | 14 |
| 867 | 1260 | 12.0 | 6.3 | | |
| 850 | 1422 | 11.0 | 5.7 | 220 | 15 |
| 800 | 1925 | | | 242 | 20 |
| 791 | 2030 | 7.5 | 3.8 | | |
| 766 | 2290 | 9.8 | - 3.8 | | |
| 750 | 2460 | | | 261 | 21 |
| 717 | 2820 | 5.4 | - 2.6 | | |
| 700 | 3025 | 4.0 | - 5.0 | 270 | 23 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 988 | 200 | 7.8 | 0.6 | 140 | 7 |
| 976 | 300 | 6.7 | - 4.1 | | |
| 950 | 520 | | | 148 | 18 |
| 916 | 820 | 4.2 | - 5.3 | | |
| 900 | 965 | | | 184 | 19 |
| 894 | 1020 | 10.6 | 7.7 | | |
| 860 | 1350 | 10.4 | 5.0 | | |
| 850 | 1441 | 9.7 | 4.8 | 216 | 18 |
| 800 | 1942 | | | 219 | 21 |
| 750 | 2460 | | | 225 | 22 |
| 746 | 2500 | 2.0 | - 1.1 | | |
| 700 | 3023 | - 0.4 | - 2.3 | 242 | 18 |

Station: Columbia, Mo.
Ascension Start: 0600 CST (8 April)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 994 | 238 | 1.0 | - 7.0 | 320 | 11 |
| 950 | 600 | | | 315 | 15 |
| 900 | 1026 | | | 320 | 16 |
| 861 | 1380 | - 8.9 | -12.3 | | |
| 850 | 1471 | - 9.4 | -12.2 | 326 | 14 |
| 827 | 1680 | -10.6 | -12.8 | | |
| 814 | 1800 | - 9.6 | -14.1 | | |
| 800 | 1938 | | | 318 | 14 |
| 770 | 2240 | -11.5 | -28.1 | | |
| 750 | 2440 | | | 315 | 16 |
| 730 | 2640 | - 9.8 | MB | | |
| 700 | 2966 | -10.9 | MB | 303 | 19 |

Station: Peoria, Ill.
Ascension Start: 0600 CST (8 April)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 995 | 200 | 0.0 | - 3.9 | 300 | 8 |
| 950 | 560 | | | 305 | 13 |
| 900 | 993 | | | 308 | 15 |
| 896 | 1010 | - 7.0 | - 9.1 | | |
| 850 | 1436 | -10.0 | -11.9 | 309 | 18 |
| 810 | 1810 | -12.5 | -14.1 | | |
| 800 | 1901 | | | 305 | 18 |
| 796 | 1940 | -10.0 | -11.5 | | |
| 750 | 2400 | | | 312 | 18 |
| 702 | 2900 | -13.5 | -17.1 | | |
| 700 | 2923 | -13.6 | 17.4 | 305 | 19 |

# Table 9 (continued). RAWINSONDE MEASUREMENTS

8 April 1964 — Experiment No. 17 — Tracer Release from 2030 to 2130 CST

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 995 | 238 | 7.5 | - 4.6 | 310 | 9 |
| 990 | 610 | | | 303 | 9 |
| 900 | 1052 | | | 310 | 10 |
| 850 | 1506 | - 5.1 | -15.2 | 317 | 11 |
| 815 | 1830 | - 8.5 | -18.0 | | |
| 800 | 1978 | | | 330 | 14 |
| 799 | 1990 | - 9.6 | -21.3 | | |
| 778 | 2190 | - 5.8 | -23.6 | | |
| 750 | 2470 | | | 340 | 16 |
| 700 | 3019 | - 6.9 | MB | 352 | 19 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 997 | 200 | 7.2 | - 5.0 | 310 | 7 |
| 977 | 370 | 5.2 | - 8.0 | | |
| 950 | 600 | | | 314 | 11 |
| 900 | 1027 | | | 317 | 12 |
| 850 | 1480 | - 5.1 | -11.7 | 321 | 12 |
| 800 | 1953 | | | 326 | 12 |
| 788 | 2070 | -10.7 | -14.6 | | |
| 766 | 2280 | -10.6 | -22.8 | | |
| 750 | 2440 | | | 333 | 18 |
| 730 | 2770 | -12.9 | -29.3 | | |
| 702 | 2960 | -12.0 | MB | | |
| 700 | 2977 | -12.1 | MB | 331 | 19 |

9 April 1964 — Experiment No. 18 — Tracer Release from 2045 to 2145 CST

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 991 | 238 | 17.6 | - 1.1 | 250 | 8 |
| 950 | 600 | | | 232 | 12 |
| 900 | 1048 | | | 236 | 11 |
| 850 | 1516 | 3.3 | - 4.2 | 244 | 10 |
| 842 | 1600 | 2.6 | - 5.6 | | |
| 800 | 2005 | | | 282 | 12 |
| 793 | 2080 | 1.0 | -10.5 | | |
| 750 | 2510 | | | 301 | 14 |
| 700 | 3061 | - 8.2 | -15.2 | 300 | 14 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 996 | 200 | 12.8 | - 1.7 | 230 | 6 |
| 989 | 410 | 10.5 | - 5.5 | | |
| 950 | 590 | | | 233 | 10 |
| 900 | 1040 | | | 243 | 11 |
| 850 | 1504 | 1.8 | - 6.0 | 273 | 13 |
| 802 | 1960 | - 0.4 | - 8.5 | | |
| 800 | 1991 | | | 272 | 16 |
| 750 | 2490 | | | 314 | 14 |
| 748 | 2500 | - 5.2 | -10.7 | | |
| 710 | 2920 | - 8.0 | -19.3 | | |
| 700 | 3039 | - 8.3 | -20.7 | 304 | 16 |

Station: Columbia, Mo.
Ascension Start: 0600 CST (9 April)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 997 | 238 | - 0.6 | - 4.7 | 220 | 3 |
| 967 | 490 | 4.0 | - 7.5 | | |
| 950 | 630 | | | 294 | 6 |
| 900 | 1062 | | | 308 | 6 |
| 868 | 1360 | - 2.5 | -14.9 | | |
| 850 | 1518 | - 1.0 | -19.0 | 315 | 6 |
| 847 | 1560 | - 0.9 | -20.5 | | |
| 800 | 2002 | | | 314 | 8 |
| 796 | 2050 | - 0.9 | MB | | |
| 750 | 2530 | | | 306 | 11 |
| 738 | 2660 | - 1.5 | -22.2 | | |
| 700 | 3058 | - 6.2 | -24.0 | 304 | 11 |

Station: Peoria, Ill.
Ascension Start: 0600 CST (9 April)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 1001 | 200 | - 2.2 | - 5.6 | 250 | 2 |
| 1000 | 208 | - 2.0 | - 5.6 | 250 | 2 |
| 984 | 330 | 2.7 | - 6.0 | | |
| 950 | 620 | | | 317 | 8 |
| 913 | 940 | - 1.4 | -11.6 | | |
| 900 | 1053 | | | 330 | 11 |
| 884 | 1190 | - 2.9 | -11.6 | | |
| 850 | 1504 | - 5.6 | -16.8 | 325 | 11 |
| 840 | 1600 | - 6.4 | -18.1 | | |
| 812 | 1860 | - 4.4 | -23.0 | | |
| 800 | 1980 | | | 313 | 12 |
| 787 | 2100 | - 3.4 | MB | | |
| 758 | 2390 | - 4.3 | -22.9 | | |
| 750 | 2490 | | | 312 | 13 |
| 700 | 3029 | - 7.2 | -23.9 | 313 | 14 |

Station: Columbia, Mo.
Ascension Start: 0600 CST (10 April)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 991 | 238 | 10.1 | 0.9 | 280 | 3 |
| 961 | 510 | 10.5 | 0.8 | | |
| 950 | 600 | | | 275 | 13 |
| 935 | 730 | 12.5 | 1.2 | | |
| 900 | 1042 | | | 288 | 19 |
| 850 | 1514 | 6.4 | - 2.5 | 291 | 15 |
| 800 | 2008 | | | 291 | 15 |
| 751 | 2510 | - 1.5 | - 7.8 | | |
| 750 | 2520 | | | 288 | 14 |
| 700 | 3071 | - 5.8 | -10.2 | 280 | 11 |

Station: Peoria, Ill.
Ascension Start: 0600 CST (10 April)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 996 | 200 | 3.9 | 1.1 | 275 | 2 |
| 978 | 350 | 6.0 | 1.2 | | |
| 966 | 460 | 9.0 | - 1.5 | | |
| 950 | 600 | | | 340 | 8 |
| 900 | 1034 | | | 331 | 8 |
| 850 | 1498 | 1.3 | -11.8 | 313 | 11 |
| 846 | 1530 | 1.1 | -12.0 | | |
| 800 | 1783 | | | 310 | 14 |
| 796 | 2000 | - 1.1 | - 16.5 | | |
| 750 | 2490 | | | 310 | 18 |
| 700 | 3032 | - 8.9 | -20.4 | 314 | 18 |

## Table 9 (continued). RAWINSONDE MEASUREMENTS

2 June 1964 Experiment No. 19 Tracer Release from 1030 to 1130 CST

Station: Columbia, Mo.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 989 | 238 | 12.9 | 6.3 | 040 | 3 |
| 964 | 450 | 14.7 | - 0.2 | | |
| 950 | 590 | | | 004 | 4 |
| 900 | 1031 | | | 334 | 6 |
| 891 | 1140 | 10.2 | - 0.3 | | |
| 850 | 1504 | 6.8 | - 0.9 | 310 | 8 |
| 800 | 1998 | | | 295 | 9 |
| 759 | 2410 | - 1.2 | - 3.4 | | |
| 750 | 2520 | | | 285 | 8 |
| 700 | 3062 | - 5.0 | - 6.8 | 288 | 9 |

Station: Peoria, Ill.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 994 | 200 | 10.6 | 5.6 | 360 | 5 |
| 980 | 310 | 9.2 | - 0.7 | | |
| 957 | 510 | 9.2 | 2.1 | | |
| 950 | 590 | | | 080 | 4 |
| 906 | 980 | 7.1 | - 0.9 | | |
| 900 | 1020 | | | 123 | 3 |
| 866 | 1340 | 3.5 | 1.3 | | |
| 850 | 1486 | 3.0 | 1.3 | 217 | 3 |
| 824 | 1740 | 2.0 | 0.8 | | |
| 800 | 1976 | | | 252 | 6 |
| 750 | 2500 | | | 247 | 7 |
| 700 | 3037 | - 5.5 | - 6.7 | 250 | 8 |

3 June 1964 Experiment No. 20 Tracer Release from 1040 to 1140 CST

Station: Columbia, Mo.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 988 | 238 | 8.0 | 5.6 | 220 | 2 |
| 964 | 440 | 15.1 | - 0.9 | | |
| 950 | 580 | | | 291 | 4 |
| 900 | 1023 | | | 306 | 5 |
| 850 | 1496 | 6.6 | - 5.4 | 316 | 10 |
| 822 | 1760 | 4.1 | - 7.1 | | |
| 800 | 1990 | | | 325 | 12 |
| 762 | 2370 | 0.7 | -17.1 | | |
| 750 | 2500 | | | 330 | 12 |
| 733 | 2690 | - 1.8 | -17.5 | | |
| 716 | 2870 | - 0.2 | -20.0 | | |
| 700 | 3060 | - 0.8 | MB | 327 | 13 |

Station: Peoria, Ill.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 992 | 200 | 6.1 | 6.1 | 200 | 1 |
| 970 | 390 | 14.3 | - 1.8 | | |
| 950 | 570 | | | 285 | 10 |
| 916 | 870 | 10.9 | -11.2 | | |
| 900 | 1012 | | | 285 | 10 |
| 850 | 1482 | 5.8 | -10.4 | 297 | 9 |
| 800 | 1974 | | | 307 | 8 |
| 757 | 2410 | - 2.0 | -11.5 | | |
| 750 | 2500 | | | 311 | 9 |
| 702 | 3010 | - 5.7 | -15.4 | | |
| 700 | 3033 | - 6.0 | -15.8 | 329 | 11 |

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 987 | 238 | 21.1 | 5.9 | 300 | 8 |
| 971 | 390 | 17.0 | - 1.6 | | |
| 950 | 570 | | | 303 | 11 |
| 902 | 1000 | 9.0 | 0.0 | | |
| 900 | 1017 | | | 297 | 12 |
| 850 | 1488 | 6.4 | - 0.8 | 285 | 9 |
| 800 | 1981 | | | 276 | 10 |
| 791 | 2050 | 2.3 | - 2.1 | | |
| 752 | 2470 | - 1.7 | - 7.6 | | |
| 750 | 2490 | | | 286 | 11 |
| 726 | 2750 | - 1.2 | -20.2 | | |
| 700 | 3050 | - 2.8 | MB | 300 | 13 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 991 | 200 | 17.8 | 7.8 | 340 | 4 |
| 972 | 380 | 15.3 | 2.8 | | |
| 950 | 570 | | | 298 | 7 |
| 900 | 1010 | | | 289 | 10 |
| 852 | 1480 | 6.1 | - 1.7 | | |
| 850 | 1482 | 5.9 | - 2.0 | 284 | 9 |
| 800 | 1976 | | | 286 | 11 |
| 777 | 2200 | 0.9 | - 7.6 | | |
| 750 | 2490 | | | 284 | 12 |
| 716 | 2860 | - 4.8 | - 8.9 | | |
| 700 | 3039 | - 6.0 | -10.1 | 280 | 12 |

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 986 | 238 | 25.0 | 6.2 | 250 | 3 |
| 968 | 390 | 21.0 | 5.8 | | |
| 950 | 560 | | | 231 | 4 |
| 900 | 1022 | | | 216 | 5 |
| 850 | 1502 | 10.1 | 3.8 | 248 | 5 |
| 800 | 2003 | | | 282 | 7 |
| 798 | 2010 | 5.0 | 1.7 | | |
| 750 | 2510 | | | 316 | 8 |
| 705 | 3010 | - 1.7 | - 6.0 | | |
| 700 | 3079 | - 1.5 | - 7.8 | 330 | 10 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 990 | 200 | 22.2 | 5.0 | 260 | 4 |
| 950 | 560 | | | 260 | 5 |
| 900 | 1018 | | | 264 | 6 |
| 858 | 1400 | 11.4 | - 2.1 | | |
| 850 | 1498 | 10.7 | - 2.4 | 264 | 8 |
| 800 | 1999 | | | 270 | 8 |
| 750 | 2500 | | | 274 | 8 |
| 710 | 2960 | - 2.8 | - 5.8 | | |
| 700 | 3071 | - 3.4 | - 6.4 | 286 | 9 |

## Table 9 (continued). RAWINSONDE MEASUREMENTS

4 June 1964 Experiment No. 21 Tracer Release from 1030 to 1130 CST

Station: Columbia, Mo.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 987 | 238 | 13.9 | 7.6 | 170 | 5 |
| 966 | 430 | 18.5 | 6.4 | | |
| 950 | 560 | | | 187 | 12 |
| 900 | 1025 | | | 204 | 6 |
| 869 | 1320 | 13.5 | - 0.2 | | |
| 850 | 1507 | 12.0 | - 0.5 | 170 | 6 |
| 800 | 2011 | | | 143 | 5 |
| 750 | 2540 | | | 112 | 5 |
| 736 | 2700 | 2.5 | - 3.0 | | |
| 700 | 3096 | 0.2 | - 8.8 | 267 | 1 |

Station: Peoria, Ill.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 993 | 200 | 10.6 | 7.2 | 190 | 3 |
| 974 | 350 | 16.9 | 3.5 | | |
| 954 | 530 | 17.1 | 4.0 | | |
| 950 | 580 | | | 262 | 12 |
| 900 | 1032 | | | 280 | 14 |
| 850 | 1511 | 9.8 | 2.9 | 290 | 11 |
| 800 | 2011 | | | 286 | 5 |
| 797 | 2060 | 5.8 | 1.6 | | |
| 753 | 2510 | 1.6 | - 7.2 | | |
| 750 | 2540 | | | 285 | 4 |
| 714 | 2970 | - 1.9 | - 9.3 | | |
| 700 | 3087 | - 2.8 | -11.8 | 332 | 6 |

6 June 1964 Experiment No. 22 Tracer Release from 1130 to 1230 CST

Station: Columbia, Mo.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 984 | 238 | 16.8 | 16.1 | 070 | 1 |
| 950 | 530 | | | 205 | 2 |
| 900 | 996 | | | 263 | 3 |
| 850 | 1478 | 11.6 | 9.7 | 250 | 12 |
| 800 | 1984 | | | 243 | 15 |
| 796 | 2000 | 9.1 | 7.0 | | |
| 750 | 2500 | | | 232 | 14 |
| 717 | 2880 | 1.9 | - 1.2 | | |
| 707 | 3040 | 3.5 | - 4.0 | | |
| 700 | 3072 | 3.3 | 0.7 | 238 | 14 |

Station: Peoria, Ill.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 991 | 200 | 14.4 | 14.4 | 090 | 3 |
| 962 | 460 | 13.4 | 11.7 | | |
| 950 | 560 | | | 147 | 4 |
| 934 | 710 | 14.4 | 12.8 | | |
| 900 | 1015 | | | 194 | 6 |
| 850 | 1494 | 10.1 | 8.5 | 215 | 6 |
| 800 | 1997 | | | 227 | 6 |
| 750 | 2520 | 4.6 | 3.1 | 236 | 10 |
| 700 | 3087 | 0.8 | - 0.6 | 236 | 12 |

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 987 | 238 | 13.6 | 12.2 | 110 | 4 |
| 950 | 560 | | | 124 | 11 |
| 914 | 870 | 8.8 | 6.3 | | |
| 900 | 1009 | | | 122 | 16 |
| 850 | 1481 | 6.7 | 5.5 | 116 | 15 |
| 831 | 1660 | 6.0 | 5.3 | | |
| 800 | 1978 | | | 160 | 12 |
| 784 | 2140 | 6.4 | 6.1 | | |
| 750 | 2500 | | | 234 | 11 |
| 700 | 3068 | 1.9 | 1.6 | 255 | 12 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 993 | 200 | 23.3 | 10.6 | 230 | 4 |
| 974 | 350 | 22.5 | 7.1 | | |
| 950 | 580 | | | 238 | 7 |
| 900 | 1047 | | | 250 | 4 |
| 850 | 1531 | 12.0 | 5.4 | 285 | 3 |
| 820 | 1820 | 9.2 | 4.2 | | |
| 800 | 2035 | | | 295 | 3 |
| 750 | 2540 | | | 205 | 1 |
| 749 | 2570 | 3.4 | - 3.8 | | |
| 700 | 3119 | - 0.1 | - 3.5 | 012 | 3 |

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 982 | 238 | 25.6 | 17.2 | 270 | 4 |
| 963 | 390 | 21.0 | 14.0 | | |
| 950 | 500 | | | 246 | 6 |
| 900 | 992 | | | 224 | 8 |
| 850 | 1477 | 13.0 | 10.2 | 210 | 9 |
| 841 | 1550 | 12.2 | 10.0 | | |
| 800 | 1985 | | | 211 | 10 |
| 772 | 2260 | 8.3 | 2.9 | | |
| 750 | 2500 | | | 238 | 8 |
| 748 | 2520 | 9.2 | -13.9 | | |
| 700 | 3088 | 6.0 | MS | 289 | 8 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 988 | 200 | 23.3 | 18.3 | 240 | 3 |
| 950 | 540 | | | 240 | 5 |
| 900 | 1009 | | | 249 | 9 |
| 850 | 1496 | 14.1 | 9.8 | 241 | 12 |
| 800 | 2006 | | | 233 | 16 |
| 750 | 2550 | 6.7 | 2.8 | 227 | 18 |
| 706 | 3050 | 3.5 | - 2.7 | | |
| 700 | 3108 | 3.6 | - 5.1 | 228 | 17 |

# Table 9 (continued). RAWINSONDE MEASUREMENTS

7 June 1964 Experiment No. 23

Station: Columbia, Mo.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 981 | 238 | 17.2 | 16.1 | 140 | 3 |
| 954 | 490 | 20.9 | 17.9 | | |
| 950 | 520 | | | 190 | 5 |
| 926 | 730 | 19.4 | 13.4 | | |
| 900 | 980 | | | 237 | 6 |
| 870 | 1270 | 15.4 | 11.3 | | |
| 854 | 1420 | 16.5 | 0.6 | | |
| 850 | 1467 | 16.6 | 3.0 | 260 | 5 |
| 847 | 1500 | 16.8 | 4.5 | | |
| 800 | 1981 | | | 290 | 3 |
| 779 | 2200 | 12.7 | 2.0 | | |
| 750 | 2500 | | | 282 | 7 |
| 723 | 2810 | 7.1 | 2.7 | | |
| 700 | 3093 | 5.2 | 1.9 | 288 | 8 |

Tracer Release from 1130 to 1230 CST

Station: Peoria, Ill.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 988 | 200 | 15.0 | 15.0 | | Calm |
| 976 | 300 | 19.0 | 13.0 | | |
| 950 | 530 | | | 234 | 4 |
| 920 | 800 | 16.3 | 5.2 | | |
| 900 | 996 | | | 252 | 7 |
| 850 | 1477 | 11.4 | 3.6 | 238 | 9 |
| 846 | 1510 | 11.1 | 3.6 | | |
| 814 | 1830 | 12.0 | -10.2 | | |
| 800 | 1985 | | | 282 | 7 |
| 750 | 2500 | | | 292 | 9 |
| 724 | 2800 | 6.2 | - 8.9 | | |
| 700 | 3085 | 4.6 | -12.0 | 289 | 10 |

9 June 1964 Experiment No. 24

Station: Columbia, Mo.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 975 | 238 | 21.2 | 16.8 | 180 | 6 |
| 952 | 440 | 22.3 | 17.6 | | |
| 950 | 470 | | | 202 | 13 |
| 900 | 934 | | | 233 | 29 |
| 894 | 1000 | 18.9 | 15.4 | | |
| 867 | 1260 | 20.9 | 15.9 | | |
| 850 | 1429 | 21.5 | 13.4 | 247 | 33 |
| 830 | 1630 | 22.3 | 10.1 | | |
| 804 | 1900 | 21.0 | 8.3 | | |
| 800 | 1956 | | | 242 | 27 |
| 772 | 2240 | 18.4 | - 2.0 | | |
| 760 | 2380 | 17.3 | 3.2 | | |
| 750 | 2500 | | | 232 | 23 |
| 748 | 2510 | 16.5 | - 4.1 | | |
| 700 | 3093 | 12.1 | - 0.7 | 222 | 18 |

Tracer Release from 1030 to 1130 CST

Station: Peoria, Ill.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 981 | 200 | 20.6 | 17.8 | 180 | 5 |
| 952 | 470 | 22.7 | 17.0 | | |
| 950 | 490 | | | 208 | 16 |
| 900 | 950 | | | 242 | 25 |
| 884 | 1100 | 20.2 | 13.6 | | |
| 865 | 1300 | 23.0 | 9.0 | | |
| 850 | 1446 | 22.2 | 6.4 | 253 | 22 |
| 800 | 1970 | | | 231 | 22 |
| 793 | 2050 | 19.5 | - 7.8 | | |
| 750 | 2500 | | | 227 | 25 |
| 700 | 3097 | 10.0 | MB | 224 | 26 |

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 979 | 238 | 23.1 | 18.5 | 150 | 4 |
| 950 | 500 | | | 156 | 9 |
| 928 | 700 | 19.8 | 14.1 | | |
| 903 | 940 | 19.0 | 9.2 | | |
| 900 | 968 | | | 173 | 11 |
| 850 | 1456 | 15.9 | 8.8 | 198 | 8 |
| 842 | 1530 | 15.4 | 8.8 | | |
| 814 | 1810 | 14.1 | 5.5 | | |
| 800 | 1970 | | | 249 | 7 |
| 794 | 2020 | 15.5 | 4.9 | | |
| 750 | 2500 | | | 291 | 8 |
| 737 | 2640 | 12.5 | 0.3 | | |
| 700 | 3091 | 8.6 | 1.5 | 292 | 15 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 985 | 200 | 26.7 | 19.4 | 280 | 3 |
| 964 | 380 | 24.0 | 16.1 | | |
| 950 | 510 | | | 255 | 3 |
| 900 | 988 | | | 245 | 3 |
| 890 | 1080 | 17.0 | 13.1 | | |
| 870 | 1270 | 17.3 | 6.9 | | |
| 850 | 1476 | 16.0 | 5.3 | 245 | 4 |
| 800 | 1990 | | | 243 | 9 |
| 792 | 2060 | 12.5 | 1.2 | | |
| 750 | 2520 | | | 239 | 10 |
| 700 | 3098 | 5.5 | - 0.4 | 251 | 10 |

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 978 | 238 | 30.6 | 20.5 | 260 | 6 |
| 955 | 430 | 26.6 | 17.9 | | |
| 950 | 480 | | | 242 | 9 |
| 930 | 972 | | | 239 | 12 |
| 874 | 1230 | 20.6 | 15.9 | | |
| 850 | 1467 | 18.9 | 13.5 | 251 | 13 |
| 805 | 1920 | 15.2 | 9.3 | | |
| 800 | 1984 | | | 270 | 16 |
| 761 | 2400 | 13.3 | -11.3 | | |
| 750 | 2520 | | | 270 | 24 |
| 723 | 2820 | 14.0 | -10.7 | | |
| 700 | 3106 | 11.9 | -12.4 | 251 | 26 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 980 | 200 | 31.1 | 20.0 | 225 | 8 |
| 962 | 380 | 29.0 | 15.9 | | |
| 950 | 490 | | | 225 | 15 |
| 900 | 956 | | | 230 | 17 |
| 850 | 1452 | 18.8 | 13.0 | 239 | 22 |
| 822 | 1740 | 16.0 | 11.6 | | |
| 800 | 1969 | | | 255 | 22 |
| 768 | 2300 | 12.3 | 4.8 | | |
| 750 | 2500 | | | 267 | 28 |
| 732 | 2700 | 11.7 | -11.9 | | |
| 706 | 3010 | 11.6 | MB | | |
| 700 | 3090 | 11.1 | MB | 266 | 37 |

## Table 9 (continued). RAWINSONDE MEASUREMENTS

10 June 1964 Experiment No. 25 Tracer Release from 1033 to 1133 CST

Station: Columbia, Mo.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 986 | 238 | 16.6 | 12.7 | 360 | 4 |
| 955 | 510 | 14.6 | 11.2 | | |
| 950 | 560 | | | 346 | 7 |
| 913 | 900 | 17.9 | 10.0 | | |
| 900 | 1016 | | | 310 | 9 |
| 874 | 1270 | 19.0 | 8.4 | | |
| 850 | 1507 | 18.7 | 2.5 | 273 | 15 |
| 827 | 1740 | 18.3 | - 4.5 | | |
| 800 | 2025 | | | 267 | 16 |
| 774 | 2300 | 13.5 | 3.9 | | |
| 758 | 2480 | 12.4 | - 3.0 | | |
| 750 | 2560 | | | 282 | 17 |
| 733 | 2770 | 10.2 | 5.0 | | |
| 710 | 3030 | 10.2 | -13.1 | | |
| 700 | 3146 | 10.2 | MB | 301 | 15 |

Station: Peoria, Ill.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 991 | 200 | 15.0 | 12.8 | 295 | 2 |
| 950 | 560 | | | 338 | 8 |
| 928 | 750 | 11.6 | 8.6 | | |
| 917 | 850 | 15.2 | 13.0 | | |
| 900 | 1012 | | | 332 | 10 |
| 871 | 1300 | 15.6 | 6.2 | | |
| 850 | 1497 | 14.7 | 4.3 | 314 | 12 |
| 826 | 1730 | 13.1 | 0.5 | | |
| 800 | 2006 | | | 305 | 12 |
| 785 | 2180 | 9.9 | - 0.9 | | |
| 750 | 2540 | | | 303 | 17 |
| 740 | 2670 | 12.0 | - 7.0 | | |
| 700 | 3118 | 9.8 | -12.1 | 287 | 21 |

11 June 1964 Experiment No. 26 Tracer Release from 1035 to 1135 CST

Station: Columbia, Mo.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 990 | 238 | 18.0 | 15.3 | 030 | 4 |
| 950 | 600 | | | 355 | 1 |
| 942 | 670 | 14.9 | 12.4 | | |
| 906 | 1000 | 16.5 | 13.6 | | |
| 900 | 1050 | | | - | - |
| 850 | 1537 | - | - | - | - |
| 813 | 1910 | 15.4 | 13.3 | | |
| 800 | 2053 | | | - | - |
| 751 | 2590 | 12.6 | 7.3 | | |
| 750 | 2595 | | | - | - |
| 700 | 3176 | 8.0 | 2.6 | 237 | 8 |

Station: Peoria, Ill.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 998 | 200 | 12.8 | 7.2 | 090 | 4 |
| 976 | 380 | 11.6 | 5.0 | | |
| 964 | 480 | 13.3 | 7.9 | | |
| 950 | 600 | | | 114 | 7 |
| 946 | 640 | 14.4 | 3.3 | | |
| 900 | 1072 | | | 063 | 2 |
| 895 | 1120 | 16.3 | 11.8 | | |
| 850 | 1559 | 17.3 | - 3.5 | 272 | 3 |
| 842 | 1630 | 17.6 | - 8.6 | | |
| 800 | 2075 | | | 338 | 3 |
| 775 | 2330 | 12.9 | 1.2 | | |
| 750 | 2610 | | | 325 | 9 |
| 700 | 3192 | 8.6 | - 8.5 | 279 | 11 |

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 988 | 238 | 26.6 | 16.4 | 090 | 4 |
| 971 | 400 | 22.8 | 13.3 | | |
| 950 | 590 | | | 076 | 5 |
| 907 | 990 | 18.5 | 12.4 | | |
| 900 | 1050 | | | 014 | 2 |
| 881 | 1240 | 22.5 | - 5.4 | | |
| 850 | 1544 | 21.4 | - 5.5 | 322 | 6 |
| 800 | 2067 | | | 334 | 5 |
| 787 | 2210 | 18.6 | - 6.2 | | |
| 750 | 2610 | | | 354 | 4 |
| 700 | 3198 | 11.1 | -12.3 | 319 | 2 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 994 | 200 | 25.6 | 15.0 | 020 | 5 |
| 974 | 390 | 23.6 | 11.9 | | |
| 950 | 600 | | | 039 | 5 |
| 900 | 1058 | | | 009 | 5 |
| 852 | 1520 | 12.8 | 8.9 | | |
| 850 | 1544 | 12.9 | 8.4 | 330 | 5 |
| 840 | 1640 | 13.5 | 6.9 | | |
| 826 | 1800 | 16.4 | - 9.5 | | |
| 800 | 2057 | | | 301 | 9 |
| 780 | 2270 | 16.2 | MB | | |
| 752 | 2560 | 14.6 | -11.0 | | |
| 750 | 2600 | | | 303 | 12 |
| 700 | 3183 | 10.9 | -10.0 | 299 | 11 |

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 983 | 238 | 28.8 | 21.6 | 170 | 3 |
| 950 | 540 | | | 160 | 8 |
| 900 | 1014 | | | 187 | 9 |
| 850 | 1509 | 18.4 | 15.5 | 215 | 10 |
| 800 | 2026 | | | 216 | 14 |
| 750 | 2560 | | | 223 | 13 |
| 745 | 2710 | 11.2 | 2.0 | | |
| 706 | 3060 | 8.5 | 2.9 | | |
| 700 | 3144 | 8.1 | 1.3 | 217 | 18 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 991 | 200 | 27.8 | 15.6 | 140 | 5 |
| 952 | 550 | 25.2 | 11.6 | | |
| 950 | 580 | | | 147 | 8 |
| 900 | 1043 | | | 155 | 9 |
| 855 | 1490 | 16.6 | 9.7 | | |
| 850 | 1534 | 16.3 | 8.2 | 165 | 9 |
| 829 | 1740 | 15.4 | 1.5 | | |
| 817 | 1880 | 18.2 | - 3.9 | | |
| 800 | 2051 | | | 205 | 10 |
| 750 | 2600 | | | 204 | 10 |
| 708 | 3070 | 8.8 | - 2.5 | | |
| 700 | 3170 | 8.0 | - 3.9 | 198 | 12 |

# Table 9 (continued). RAWINSONDE MEASUREMENTS

10 October 1964 Experiment No. 27 Tracer Release from 1130 to 1230 CST

Station: Columbia, Mo.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 999 | 238 | - 1.0 | - 3.3 | 040 | 3 |
| 978 | 400 | 4.5 | - 5.0 | | |
| 950 | 640 | | | 080 | 4 |
| 900 | 1081 | | | 010 | 3 |
| 895 | 1130 | 0.0 | -12.3 | | |
| 875 | 1300 | 0.8 | -19.1 | | |
| 850 | 1539 | 1.1 | MB | 338 | 6 |
| 800 | 2026 | | | 336 | 7 |
| 750 | 2540 | | | 334 | 8 |
| 735 | 2700 | 2.8 | MB | | |
| 712 | 2970 | 1.0 | -18.9 | | |
| 700 | 3103 | 0.5 | -19.3 | 330 | 10 |

Station: Peoria, Ill.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 1005 | 200 | - 3.3 | - 5.6 | 005 | 2 |
| 1000 | 240 | - 2.0 | - 4.8 | 010 | 2 |
| 984 | 370 | 1.8 | - 3.5 | | |
| 950 | 640 | | | 060 | 1 |
| 940 | 740 | - 1.0 | - 9.6 | | |
| 900 | 1081 | | | 007 | 4 |
| 868 | 1380 | - 5.0 | -12.0 | | |
| 850 | 1533 | - 2.8 | -14.8 | 351 | 9 |
| 834 | 1690 | - 0.4 | -20.2 | | |
| 800 | 2017 | | | 351 | 9 |
| 750 | 2520 | | | 343 | 11 |
| 714 | 2920 | 0.2 | MB | | |
| 703 | 3050 | - 0.8 | -20.5 | | |
| 700 | 3086 | - 1.0 | -20.1 | 336 | 14 |

11 October 1964 Experiment No. 28 Tracer Release from 1105 to 1205 CST

Station: Columbia, Mo.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 996 | 238 | 3.9 | - 2.9 | 130 | 3 |
| 965 | 490 | 7.4 | - 3.2 | | |
| 950 | 620 | | | 177 | 11 |
| 900 | 1071 | | | 202 | 7 |
| 850 | 1541 | 7.4 | -14.8 | 178 | 3 |
| 818 | 1850 | 7.0 | -15.1 | | |
| 800 | 2034 | | | 210 | 2 |
| 768 | 2360 | 4.1 | - 2.4 | | |
| 750 | 2560 | | | 258 | 3 |
| 720 | 2890 | 4.8 | - 5.5 | | |
| 700 | 3129 | 4.2 | - 9.9 | 274 | 3 |

Station: Peoria, Ill.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 1004 | 200 | 1.1 | - 2.8 | 140 | 2 |
| 1000 | 230 | 1.7 | - 2.7 | 143 | 3 |
| 975 | 460 | 4.7 | - 2.6 | | |
| 950 | 670 | | | 174 | 9 |
| 900 | 1084 | 1.3 | - 9.4 | 178 | 5 |
| 882 | 1270 | 4.7 | -17.0 | | |
| 850 | 1548 | 5.0 | MB | 230 | 3 |
| 814 | 1920 | 5.4 | MB | | |
| 800 | 2042 | | | 264 | 3 |
| 750 | 2580 | | | 282 | 4 |
| 700 | 3124 | 1.6 | MB | 285 | 4 |

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 996 | 238 | 12.9 | - 4.3 | 130 | 3 |
| 950 | 630 | | | 126 | 6 |
| 900 | 1074 | | | 131 | 6 |
| 867 | 1370 | 3.1 | -10.2 | | |
| 850 | 1539 | 5.3 | -16.5 | 135 | 3 |
| 804 | 1970 | 7.0 | MB | | |
| 800 | 2036 | | | 318 | 3 |
| 750 | 2560 | | | 316 | 3 |
| 700 | 3124 | 3.4 | MB | 284 | 5 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 1004 | 200 | 8.3 | - 4.4 | 040 | 2 |
| 1000 | 229 | 8.4 | - 4.8 | 047 | 3 |
| 992 | 300 | 8.6 | - 5.7 | | |
| 950 | 640 | | | 099 | 6 |
| 900 | 1090 | | | 133 | 5 |
| 878 | 1290 | 0.0 | -10.0 | | |
| 860 | 1460 | 3.6 | -17.3 | | |
| 850 | 1550 | 3.7 | MB | 276 | 2 |
| 806 | 1990 | 4.4 | MB | | |
| 800 | 2043 | | | 314 | 3 |
| 770 | 2360 | 5.5 | -16.3 | | |
| 750 | 2580 | | | 317 | 6 |
| 700 | 3130 | 2.3 | -17.8 | 308 | 9 |

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 991 | 238 | 16.1 | - 0.6 | 160 | 3 |
| 950 | 580 | | | 123 | 5 |
| 900 | 1044 | | | 153 | 7 |
| 860 | 1420 | 5.7 | - 8.3 | | |
| 850 | 1514 | 6.2 | 1.5 | 208 | 11 |
| 800 | 2011 | | | 217 | 17 |
| 783 | 2180 | 5.8 | 4.4 | | |
| 750 | 2530 | | | 248 | 19 |
| 700 | 3099 | 1.5 | 0.9 | 240 | 17 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 998 | 200 | 12.2 | - 2.8 | 130 | 3 |
| 987 | 300 | 12.5 | - 3.7 | | |
| 950 | 610 | | | 160 | 4 |
| 900 | 1058 | | | 173 | 5 |
| 856 | 1470 | 2.1 | - 9.0 | | |
| 850 | 1523 | 2.6 | -11.0 | 205 | 8 |
| 837 | 1630 | 3.6 | -17.3 | | |
| 800 | 2016 | | | 213 | 9 |
| 790 | 2130 | 5.1 | MB | | |
| 751 | 2540 | 4.0 | -17.0 | | |
| 750 | 2590 | | | 213 | 12 |
| 730 | 2770 | 2.8 | - 3.7 | | |
| 706 | 3050 | 3.1 | - 7.7 | | |
| 700 | 3102 | 2.8 | - 6.8 | 215 | 12 |

## Table 9 (continued). RAWINSONDE MEASUREMENTS

12 October 1964 Experiment No. 29 Tracer Release from 2000 to 2100 CST

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 992 | 238 | 16.2 | 7.9 | 190 | 4 |
| 950 | 600 | | | 210 | 3 |
| 900 | 1052 | | | 296 | 4 |
| 850 | 1522 | 4.4 | 2.3 | 293 | 3 |
| 834 | 1670 | 6.3 | 3.5 | | |
| 800 | 2019 | | | 256 | 2 |
| 750 | 2530 | | | 268 | 3 |
| 700 | 3096 | - 1.6 | - 7.9 | 250 | 1 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 996 | 200 | 15.0 | 4.4 | 240 | 2 |
| 979 | 350 | 15.2 | 2.7 | | |
| 950 | 600 | | | 246 | 4 |
| 900 | 1049 | | | 246 | 3 |
| 860 | 1440 | 6.4 | 1.5 | | |
| 850 | 1521 | 6.5 | 1.4 | 216 | 3 |
| 810 | 1930 | 6.6 | 1.0 | | |
| 800 | 2019 | | | 255 | 7 |
| 790 | 2550 | | | 266 | 9 |
| 739 | 2680 | 1.8 | - 5.2 | | |
| 704 | 3070 | 0.0 | -12.0 | | |
| 700 | 3102 | - 0.3 | -12.0 | 262 | 8 |

16 October 1964 Experiment No. 30 Tracer Release from 2000 to 2100 CST

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 982 | 238 | 23.8 | 6.7 | 180 | 3 |
| 950 | 520 | | | 187 | 8 |
| 900 | 987 | | | 220 | 9 |
| 850 | 1471 | 12.3 | 1.0 | 240 | 6 |
| 822 | 1740 | 12.2 | <11.4 | | |
| 800 | 1977 | | | 254 | 7 |
| 768 | 2310 | 9.1 | [illegible] | | |
| 750 | 2500 | | | 273 | 4 |
| 719 | 2850 | 9.4 | [illegible] | | |
| 700 | 3053 | 7.9 | [illegible] | 271 | 4 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 987 | 200 | 20.0 | 7.2 | 175 | 3 |
| 974 | 300 | 20.5 | 5.4 | | |
| 950 | 530 | | | 199 | 6 |
| 900 | 988 | | | 217 | 6 |
| 860 | 1346 | 17.5 | 1.5 | | |
| 850 | 1430 | 11.1 | - 4.2 | 229 | 6 |
| 841 | 1520 | 13.0 | <10.3 | | |
| 800 | 1977 | | | 247 | 6 |
| 770 | 2300 | | | 227 | 7 |
| 700 | 3079 | 5.0 | [illegible] | 273 | 5 |

Station: Columbia, Mo.
Ascension Start: 0600 CST (1) October)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 993 | 238 | 7.9 | 6.7 | 360 | 1 |
| 980 | 340 | 10.9 | 8.8 | | |
| 950 | 600 | | | 230 | 2 |
| 943 | 660 | 11.2 | 7.5 | | |
| 900 | 1052 | | | 212 | 2 |
| 886 | 1180 | 7.5 | 4.0 | | |
| 874 | 1290 | 8.6 | 5.1 | | |
| 850 | 1524 | 7.1 | 3.7 | 218 | 1 |
| 800 | 2020 | | | 206 | 1 |
| 750 | 2540 | | | 010 | 1 |
| 727 | 2780 | - 0.9 | - 3.6 | | |
| 706 | 3030 | - 0.4 | - 4.9 | | |
| 700 | 3093 | - 0.7 | - 5.5 | 180 | 5 |

Station: Peoria, Ill.
Ascension Start: 0600 CST (1) October)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 998 | 200 | 4.4 | 2.2 | 350 | 2 |
| 984 | 310 | 12.4 | 3.4 | | |
| 950 | 610 | | | 347 | 3 |
| 942 | 690 | 10.4 | 0.2 | | |
| 900 | 1061 | | | 323 | 2 |
| 884 | 1210 | 6.6 | 0.4 | | |
| 872 | 1320 | 7.1 | 1.3 | | |
| 850 | 1531 | 6.3 | 0.2 | 318 | 5 |
| 800 | 2028 | | | 271 | 5 |
| 791 | 2110 | 4.4 | - 2.2 | | |
| 737 | 2480 | 3.2 | - 8.5 | | |
| 730 | 2560 | | | 297 | 7 |
| 700 | 3109 | 0.0 | -12.7 | 304 | 6 |

Station: Columbia, Mo.
Ascension Start: 0600 CST (17 October)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 980 | 238 | 10.1 | 7.9 | 140 | 2 |
| 947 | 560 | 20.4 | 12.9 | | |
| 950 | 510 | | | 202 | 2 |
| 918 | 820 | 19.5 | 9.9 | | |
| 900 | 984 | | | 196 | 7 |
| 864 | 1320 | 11.8 | 6.7 | | |
| 850 | 1468 | 11.6 | 4.2 | 206 | 7 |
| 826 | 1700 | 11.4 | - 2.1 | | |
| 800 | 1977 | | | 187 | 8 |
| 750 | 2500 | | | 191 | 8 |
| 745 | 2550 | 8.2 | <11.8 | | |
| 700 | 3051 | 6.8 | [illegible] | 181 | 5 |

Station: Peoria, Ill.
Ascension Start: 0600 CST (17 October)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 998 | 200 | 8.1 | 1.9 | 158 | 2 |
| 979 | 370 | 17.6 | 6.5 | | |
| 947 | 680 | 19.9 | 5.9 | | |
| 900 | 1130 | 19.4 | 3.5 | 233 | 7 |
| 900 | 988 | | | 243 | 7 |
| 850 | 1535 | 17.5 | 0.0 | 256 | 6 |
| 837 | 1660 | 11.3 | - 6.1 | | |
| 817 | 1850 | 11.8 | <11.8 | | |
| 800 | 1981 | | | 190 | 6 |
| 768 | 2160 | 10.7 | [illegible] | | |
| 730 | 2516 | | | 242 | 2 |
| 700 | 2958 | 3.9 | [illegible] | 245 | 4 |

# Table 9 (continued). RAWINSONDE MEASUREMENTS

17 October 1974 Experiment No. 14

[illegible], FL
[illegible] (GMT) 0518

| P (mb) | z (m) | T (°C) | $T_d$ (°C) | M (kg-g) | f (m/s) |
|---|---|---|---|---|---|
| 957 | 735 | 17.1 | 7.2 | 190 | 4 |
| 947 | 840 | 20.4 | 12.9 | | |
| 900 | 1321 | | | 222 | 3 |
| 850 | 1801 | 19.5 | 9.9 | | |
| 844 | 1854 | | | 224 | 7 |
| 796 | 2335 | 21.8 | 4.7 | | |
| 750 | 2748 | 21.6 | 4.2 | 256 | 7 |
| 724 | 2974 | 13.4 | < 7.4 | | |
| 700 | 3177 | | | 287 | 3 |
| 720 | 3598 | | | 191 | 8 |
| 745 | 3330 | 8.2 | <14.8 | | |
| 750 | 3284 | 6.8 | [illegible] | 205 | 9 |

Denver Stapleton Field (DEN) to [illegible] (ITT

[illegible], FL
Accession (GMT) [illegible] (ITT

| P (mb) | z (m) | T (°C) | $T_d$ (°C) | M (kg-g) | f (m/s) |
|---|---|---|---|---|---|
| 955 | 735 | 8.1 | 1.9 | 186 | 2 |
| 935 | 928 | 17.0 | 6.1 | | |
| 912 | 1131 | 19.9 | 5.9 | | |
| 900 | 1239 | 19.4 | 4.0 | 233 | 7 |
| 900 | 1241 | | | 233 | 7 |
| 850 | 1775 | 17.5 | 5.0 | 264 | 4 |
| 837 | 1900 | 16.5 | < 0.2 | | |
| 817 | 2092 | 16.0 | <12.0 | | |
| 800 | 2267 | | | 295 | 1 |
| 750 | 2760 | 10.7 | [illegible] | | |
| 750 | 2760 | | | 282 | 3 |
| 750 | 2999 | 3.9 | [illegible] | 283 | 4 |

23 October 1974 Experiment No. 10

[illegible], FL
[illegible] (GMT) 0800 (ITT

| P (mb) | z (m) | T (°C) | $T_d$ (°C) | M (kg-g) | f (m/s) |
|---|---|---|---|---|---|
| 991 | 228 | 10.3 | < 1.8 | 233 | 4 |
| 970 | 406 | | | 240 | 0 |
| 900 | 1044 | | | 257 | 10 |
| 850 | 1574 | < 1.1 | < 7.0 | 288 | 17 |
| 846 | 1624 | | | 289 | 18 |
| 795 | 2126 | < 0.0 | <12.1 | | |
| 750 | 2582 | | | 304 | 22 |
| 726 | 2796 | <11.0 | <15.6 | | |
| 700 | 3047 | <13.0 | <20.6 | 292 | 23 |

Denver Stapleton Field (DEN) to [illegible] (ITT

[illegible], FL
Accession (GMT) 0800 (ITT

| P (mb) | z (m) | T (°C) | $T_d$ (°C) | M (kg-g) | f (m/s) |
|---|---|---|---|---|---|
| 991 | 224 | 7.0 | < 1.0 | 255 | 5 |
| 950 | 606 | | | 314 | 7 |
| 900 | 1032 | | | 353 | 6 |
| 850 | 1496 | < 1.5 | < 7.0 | 428 | 9 |
| 829 | 1690 | < 0.6 | < 8.0 | | |
| 800 | 1959 | | | 490 | 5 |
| 750 | 2430 | | | 497 | 9 |
| 700 | 2901 | <14.0 | <20.1 | 551 | 9 |

[illegible], FL
[illegible] (GMT) 0800 (ITT

| P (mb) | z (m) | T (°C) | $T_d$ (°C) | M (kg-g) | f (m/s) |
|---|---|---|---|---|---|
| 979 | 238 | 17.9 | 10.1 | 240 | 2 |
| 950 | 500 | | | 226 | 3 |
| 900 | 973 | | | 240 | 2 |
| 850 | 1468 | 17.1 | 5.8 | 240 | 3 |
| 846 | 1507 | | | 224 | 3 |
| 795 | 1990 | 12.1 | 1.8 | | |
| 750 | 2464 | 12.6 | 4.2 | | |
| 730 | 2663 | | | 253 | 11 |
| 725 | 2706 | 10.0 | <13.7 | | |
| 700 | 2908 | 7.4 | <13.0 | 219 | 14 |

[illegible], FL
[illegible] (GMT) 0800 (ITT

| P (mb) | z (m) | T (°C) | $T_d$ (°C) | M (kg-g) | f (m/s) |
|---|---|---|---|---|---|
| 985 | 308 | 12.2 | 6.2 | 228 | 0 |
| 975 | 393 | 15.4 | 3.7 | | |
| 950 | 630 | | | 233 | 3 |
| 900 | 1061 | | | 225 | 6 |
| 850 | 1511 | 14.4 | 5.3 | 232 | 6 |
| 846 | 1551 | | | 228 | 6 |
| 795 | 2052 | 8.2 | < 3.2 | | |
| 750 | 2548 | | | 230 | 7 |
| 745 | 2599 | 6.2 | <13.2 | | |
| 700 | 3081 | 4.2 | [illegible] | 252 | 9 |

[illegible], FL
Accession (GMT) 0800 (ITT (26 October)

| P (mb) | z (m) | T (°C) | $T_d$ (°C) | M (kg-g) | f (m/s) |
|---|---|---|---|---|---|
| 985 | 238 | < 5.7 | < 1.7 | 270 | 0 |
| 977 | 306 | 1.7 | < 1.0 | | |
| 950 | 562 | | | 305 | 5 |
| 943 | 656 | 1.0 | < 9.7 | | |
| 900 | 1058 | | | 318 | 8 |
| 850 | 1566 | < 2.0 | <11.2 | | |
| 842 | 1648 | < 1.4 | <10.5 | | |
| 804 | 1975 | < 1.9 | <10.0 | 335 | 12 |
| 801 | 1992 | < 1.4 | <10.4 | | |
| 800 | 1988 | | | 344 | 13 |
| 750 | 2481 | | | 334 | 16 |
| 746 | 2524 | < 3.2 | [illegible] | 378 | 18 |

[illegible], FL
Accession (GMT) 0800 (ITT (26 October)

| P (mb) | z (m) | T (°C) | $T_d$ (°C) | M (kg-g) | f (m/s) |
|---|---|---|---|---|---|
| 968 | 392 | < 1.7 | < 5.6 | 300 | 9 |
| 954 | 530 | 2.0 | < 3.6 | | |
| 900 | 1077 | | | 370 | 9 |
| 894 | 1137 | | | 373 | 10 |
| 850 | 1618 | < 4.4 | <12.4 | 371 | 10 |
| 827 | 1808 | < 5.1 | <12.4 | | |
| 800 | 1951 | | | 378 | 10 |
| 796 | 2001 | < 6.2 | <11.3 | | |
| 750 | 2508 | | | 370 | 14 |
| 716 | 2908 | < 6.2 | <14.0 | | |
| 700 | 3085 | < 7.0 | [illegible] | 344 | 10 |

# Table 9 (continued). RAWINSONDE MEASUREMENTS

20 October 1964 — Experiment No. 33 — Tower Release from 1815 to 2015 CST

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 986 | 238 | 16.8 | - 6.3 | 240 | 3 |
| 950 | 540 | | | 234 | 14 |
| 900 | 1004 | | | 251 | 18 |
| 875 | 1200 | 8.8 | - 7.0 | | |
| 850 | 1477 | 8.4 | - 6.2 | [illegible] | 20 |
| 800 | 1978 | | | 246 | 23 |
| 780 | 2000 | 7.2 | - 5.2 | | |
| 750 | 2500 | | | 269 | 23 |
| 744 | 2580 | 5.3 | - 8.9 | | |
| 700 | 3049 | 1.6 | -13.3 | 340 | 25 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 990 | 200 | 8.9 | - 5.0 | 220 | 4 |
| 976 | 340 | 9.5 | - 5.4 | | |
| 950 | 530 | | | 205 | 11 |
| 900 | 982 | | | 230 | 17 |
| 866 | 1300 | 2.6 | - 8.0 | | |
| 852 | 1445 | 3.1 | - 6.3 | 250 | 19 |
| 831 | 1700 | 5.9 | - 1.0 | | |
| 800 | 1938 | | | 301 | 19 |
| 750 | 2470 | | | 304 | 19 |
| 713 | 2880 | - 2.5 | - 6.0 | | |
| 700 | 3013 | - 3.0 | - 6.1 | 305 | 18 |

21 October 1964 — Experiment No. 34 — Tower Release from 1920 to 2020 CST

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 987 | 238 | 18.7 | - 6.1 | 340 | 6 |
| 950 | 560 | | | 337 | 8 |
| 900 | 1000 | | | 309 | 9 |
| 850 | 1484 | 7.4 | - 6.8 | 313 | 9 |
| 800 | 1960 | | | 324 | 13 |
| 790 | 2060 | 3.7 | -17.2 | | |
| 768 | 2310 | 5.3 | - 7.7 | | |
| 750 | 2510 | | | 309 | 17 |
| 700 | 3074 | 0.7 | - 9.6 | 309 | 21 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 993 | 200 | 13.0 | - 2.8 | 180 | 4 |
| 978 | 330 | 10.4 | - 1.8 | | |
| 950 | 560 | | | 237 | 9 |
| 900 | 1004 | | | 238 | 9 |
| 850 | 1474 | [illegible] | - 7.1 | 235 | 8 |
| 800 | 1957 | | | 333 | 11 |
| 787 | 2100 | 0.6 | -19.3 | | |
| 750 | 2480 | | | 306 | 14 |
| 700 | 3030 | - 4.2 | [illegible] | 320 | 14 |

Station: Columbia, Mo.
Ascension Start: 0600 CST (21 October)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 983 | 238 | 12.8 | - 1.7 | 180 | 4 |
| 968 | 380 | 13.4 | - 1.0 | | |
| 950 | 510 | | | 289 | 12 |
| 944 | 560 | 17.4 | - 0.3 | | |
| 900 | 980 | | | 302 | 13 |
| 875 | 1250 | 14.8 | - 4.0 | | |
| 850 | 1465 | 13.5 | - 5.1 | 316 | 16 |
| 800 | 1971 | | | 297 | 15 |
| 750 | 2500 | | | 317 | 22 |
| 700 | 3066 | 3.0 | -15.7 | 318 | 25 |

Station: Peoria, Ill.
Ascension Start: 0600 CST (21 October)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 983 | 200 | 8.3 | 1.1 | 260 | 3 |
| 971 | 310 | 12.9 | 2.4 | | |
| 950 | 490 | | | 301 | 13 |
| 946 | 530 | 15.2 | 0.6 | | |
| 900 | 938 | | | 317 | 16 |
| 850 | 1412 | 7.7 | - 2.2 | 311 | 19 |
| 800 | 1909 | | | 306 | 20 |
| 789 | 2020 | 2.7 | - 4.4 | | |
| 758 | 2340 | 2.8 | -17.9 | | |
| 750 | 2420 | | | 296 | 27 |
| 700 | 2987 | - 0.1 | -14.1 | 295 | 31 |

Station: Columbia, Mo.
Ascension Start: 0600 CST (22 October)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 995 | 238 | 1.6 | - 2.8 | 080 | 3 |
| 980 | 380 | 8.1 | 1.0 | | |
| 950 | 610 | | | 060 | 4 |
| 911 | 970 | 4.9 | - 1.0 | | |
| 900 | 1060 | | | 070 | 4 |
| 870 | 1330 | 6.0 | -15.9 | | |
| 856 | 1480 | 7.1 | [illegible] | | |
| 850 | 1527 | 7.1 | [illegible] | 354 | 7 |
| 801 | 2010 | 8.0 | -14.9 | | |
| 800 | 2025 | | | 333 | 14 |
| 761 | 2440 | 5.7 | - 9.7 | | |
| 750 | 2550 | | | 332 | 14 |
| 700 | 3113 | 0.5 | -13.2 | 337 | 15 |

Station: Peoria, Ill.
Ascension Start: 0615 CST (22 October)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 1001 | 200 | - 0.6 | - 3.9 | 350 | 8 |
| 1000 | 204 | - 0.5 | - 3.8 | 350 | 7 |
| 985 | 330 | 4.3 | - 0.3 | | |
| 950 | 590 | | | 015 | 9 |
| 900 | 1056 | | | 340 | 6 |
| 874 | 1290 | - 1.1 | - 4.0 | | |
| 858 | 1470 | 7.6 | -17.9 | | |
| 850 | 1516 | 2.6 | -13.8 | 324 | 10 |
| 800 | 2004 | | | 325 | 12 |
| 789 | 2110 | 0.8 | -19.6 | | |
| 750 | 2520 | | | 315 | 11 |
| 718 | 2880 | - 2.6 | [illegible] | | |
| 700 | 3070 | - 3.4 | [illegible] | 312 | 15 |

# Table 9 (continued). RAWINSONDE MEASUREMENTS

6 March 1965 Experiment No. 35 Tracer Release: from 1230 to 1330 CST

Station: Columbia, Mo.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 981 | 238 | - 0.6 | - 2.0 | 320 | 8 |
| 950 | 500 | | | 322 | 14 |
| 931 | 660 | - 4.3 | - 5.5 | | |
| 902 | 900 | - 5.0 | - 6.0 | | |
| 900 | 922 | | | 328 | 13 |
| 891 | 1000 | - 1.8 | - 2.7 | | |
| 850 | 1377 | - 1.8 | - 3.9 | 354 | 11 |
| 834 | 1530 | - 1.8 | - 4.6 | | |
| 810 | 1760 | - 3.2 | -11.7 | | |
| 800 | 1859 | | | 002 | 11 |
| 788 | 1980 | - 2.0 | - 6.5 | | |
| 750 | 2370 | | | 344 | 12 |
| 720 | 2700 | - 4.6 | - 9.6 | | |
| 700 | 2915 | - 6.0 | -11.0 | 348 | 12 |

Station: Peoria, Ill.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 982 | 200 | - 1.1 | - 3.3 | 350 | 6 |
| 958 | 400 | - 1.8 | - 6.2 | | |
| 950 | 470 | | | 358 | 12 |
| 918 | 730 | - 2.8 | - 5.1 | | |
| 900 | 892 | | | 009 | 13 |
| 896 | 930 | - 0.2 | - 3.2 | | |
| 860 | 1270 | 0.5 | - 5.5 | | |
| 850 | 1350 | 0.1 | - 6.8 | 002 | 15 |
| 800 | 1835 | - 1.7 | -14.2 | 008 | 14 |
| 764 | 2190 | - 3.8 | -13.8 | | |
| 750 | 2340 | | | 010 | 15 |
| 734 | 2500 | - 4.8 | -22.8 | | |
| 702 | 2850 | - 5.8 | -23.7 | | |
| 700 | 2888 | - 5.9 | MB | 013 | 14 |

7 March 1965 Experiment No. 36 Tracer Release: from 1230 to 1330 CST

Station: Columbia, Mo.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 986 | 238 | - 1.0 | - 2.6 | 340 | 5 |
| 950 | 530 | | | 360 | 9 |
| 900 | 958 | | | 006 | 8 |
| 890 | 1404 | - 8.4 | - 9.3 | 354 | 9 |
| 827 | 1630 | - 9.5 | -10.2 | | |
| 804 | 1850 | - 7.6 | - 8.5 | | |
| 800 | 1874 | | | 025 | 7 |
| 750 | 2390 | | | 050 | 8 |
| 728 | 2620 | -10.7 | -11.7 | | |
| 700 | 2905 | -14.4 | -16.2 | 055 | 10 |

Station: Peoria, Ill.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 989 | 200 | - 1.1 | - 1.7 | 010 | 5 |
| 950 | 510 | | | 016 | 9 |
| 900 | 949 | | | 036 | 8 |
| 892 | 1000 | - 5.0 | - 6.8 | | |
| 870 | 1200 | - 5.3 | - 6.5 | | |
| 850 | 1399 | - 3.9 | - 5.2 | 038 | 7 |
| 800 | 1875 | | | 036 | 10 |
| 750 | 2370 | | | 015 | 4 |
| 700 | 2903 | -13.5 | -14.8 | 357 | 4 |

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 985 | 238 | 0.7 | - 4.0 | 340 | 7 |
| 950 | 530 | | | 328 | 7 |
| 900 | 953 | | | 324 | 8 |
| 850 | 1399 | - 8.5 | -11.7 | 327 | 10 |
| 830 | 1590 | -10.0 | -11.7 | | |
| 805 | 1830 | - 6.8 | -10.0 | | |
| 800 | 1870 | | | 328 | 8 |
| 783 | 2040 | - 6.9 | -17.4 | | |
| 750 | 2370 | | | 317 | 6 |
| 739 | 2480 | - 8.2 | -21.2 | | |
| 700 | 2907 | -10.0 | -19.4 | 300 | 7 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 987 | 200 | 0.0 | - 2.8 | 360 | 6 |
| 950 | 510 | | | 358 | 7 |
| 900 | 933 | | | 011 | 7 |
| 881 | 1110 | - 6.5 | - 8.0 | | |
| 866 | 1230 | - 3.9 | - 5.6 | | |
| 850 | 1383 | - 4.3 | - 6.5 | 024 | 4 |
| 800 | 1850 | | | 348 | 3 |
| 767 | 2150 | - 6.8 | -13.2 | | |
| 750 | 2330 | | | 340 | 4 |
| 730 | 2580 | - 8.9 | -14.0 | | |
| 708 | 2800 | - 7.7 | -12.8 | | |
| 700 | 2901 | - 8.1 | -12.8 | 348 | 5 |

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 988 | 238 | 2.3 | - 3.3 | 310 | 5 |
| 950 | 550 | | | 305 | 5 |
| 900 | 979 | | | 313 | 6 |
| 876 | 1180 | - 7.2 | - 9.0 | | |
| 857 | 1340 | - 4.3 | - 6.4 | | |
| 850 | 1427 | - 4.5 | - 6.6 | 334 | 6 |
| 824 | 1670 | - 4.9 | - 7.3 | | |
| 800 | 1903 | | | 352 | 7 |
| 750 | 2400 | | | 002 | 7 |
| 703 | 2700 | -13.0 | -16.0 | | |
| 700 | 2935 | -12.0 | -16.6 | 004 | 12 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 991 | 200 | 0.6 | - 2.2 | 340 | 4 |
| 950 | 540 | | | 340 | 4 |
| 901 | 970 | - 4.6 | - 6.5 | | |
| 900 | 967 | | | 356 | 5 |
| 865 | 1290 | - 2.6 | - 4.1 | | |
| 850 | 1419 | - 3.3 | - 5.5 | 013 | 4 |
| 800 | 1897 | | | 351 | 5 |
| 770 | 2200 | - 7.3 | -12.3 | | |
| 750 | 2410 | | | 353 | 3 |
| 700 | 2931 | -13.9 | -16.9 | 022 | 2 |

56%

# Table 9 (continued). RAWINSONDE MEASUREMENTS

8 March 1965 Experiment No. 37 Tracer Release from 2030 to 2130 CST

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 983 | 238 | 3.3 | - 1.1 | 300 | 7 |
| 950 | 500 | | | 302 | 9 |
| 914 | 810 | - 0.8 | - 9.2 | | |
| 900 | 947 | | | 304 | 14 |
| 850 | 1399 | - 6.1 | -10.7 | 301 | 18 |
| 802 | 1850 | -10.7 | -13.3 | | |
| 800 | 1871 | | | 300 | 15 |
| 782 | 2030 | - 9.7 | -14.2 | | |
| 750 | 2350 | | | 293 | 17 |
| 747 | 2390 | -11.5 | -21.6 | | |
| 700 | 2896 | -13.0 | -23.5 | 290 | 17 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|

NO SOUNDING TAKEN

11 March 1965 Experiment No. 38 Tracer Release from 2030 to 2130 CST

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 988 | 238 | 8.0 | - 3.5 | 300 | 5 |
| 950 | 550 | | | 300 | 5 |
| 900 | 996 | | | 297 | 7 |
| 879 | 1180 | - 1.9 | - 7.9 | | |
| 850 | 1451 | - 2.8 | - 6.9 | 272 | 12 |
| 803 | 1910 | - 4.3 | - 6.3 | | |
| 800 | 1931 | | | 258 | 17 |
| 750 | 2450 | | | 272 | 20 |
| 700 | 2971 | -10.8 | -13.1 | 209 | 22 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 993 | 200 | 0.0 | - 0.6 | 220 | 4 |
| 977 | 320 | - 1.1 | - 5.1 | | |
| 950 | 550 | | | 256 | 10 |
| 937 | 660 | - 2.4 | - 6.1 | | |
| 900 | 977 | | | 265 | 11 |
| 895 | 1010 | - 5.2 | - 7.8 | | |
| 877 | 1190 | - 4.9 | - 7.6 | | |
| 850 | 1426 | - 6.3 | -10.9 | 280 | 12 |
| 800 | 1898 | | | 278 | 14 |
| 793 | 2000 | - 9.4 | -19.2 | | |
| 750 | 2400 | | | 286 | 17 |
| 733 | 2560 | -13.6 | -24.9 | | |
| 722 | 2690 | -13.1 | -29.0 | | |
| 700 | 2918 | -14.6 | MB | 289 | 19 |

Station: Columbia, Mo.
Ascension Start: 0600 CST (9 March)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 985 | 238 | - 0.1 | - 4.3 | 300 | 4 |
| 950 | 540 | | | 314 | 8 |
| 900 | 953 | | | 318 | 10 |
| 850 | 1399 | - 8.9 | -10.8 | 317 | 11 |
| 836 | 1530 | - 9.9 | -11.7 | | |
| 830 | 1600 | - 7.0 | - 9.7 | | |
| 800 | 1872 | | | 309 | 14 |
| 793 | 1950 | - 6.1 | -24.4 | | |
| 770 | 2180 | - 4.5 | MB | | |
| 750 | 2380 | | | 304 | 17 |
| 700 | 2918 | - 9.7 | MB | 301 | 18 |

Station: Peoria, Ill.
Ascension Start: 1100 CST (9 March)[a]

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 990 | 200 | - 1.7 | - 5.6 | 290 | 11 |
| 978 | 300 | - 3.7 | -12.1 | | |
| 950 | 510 | | | 297 | 9 |
| 918 | 790 | - 8.4 | -11.2 | | |
| 900 | 950 | | | 290 | 8 |
| 898 | 960 | - 8.0 | -11.8 | | |
| 850 | 1393 | -10.1 | -14.7 | 283 | 10 |
| 838 | 1500 | -10.8 | -15.6 | | |
| 821 | 1650 | - 9.4 | 22.4 | | |
| 800 | 1861 | | | 293 | 14 |
| 782 | 2030 | - 9.5 | 26.4 | | |
| 750 | 2350 | | | 296 | 15 |
| 718 | 2680 | -11.5 | MB | | |
| 700 | 2890 | -12.8 | MB | 297 | 19 |

[a] 0600 sounding not taken; this sounding is a special sounding taken primarily to measure the winds aloft.

Station: Columbia, Mo.
Ascension Start: 0600 CST (12 March)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 989 | 238 | - 0.3 | - 2.5 | 070 | 4 |
| 964 | 440 | - 1.4 | - 4.7 | | |
| 950 | 560 | | | 020 | 6 |
| 938 | 660 | 0.8 | - 4.4 | | |
| 900 | 994 | | | 338 | 6 |
| 887 | 1100 | - 1.9 | - 9.1 | | |
| 850 | 1447 | - 4.8 | - 9.8 | 330 | 9 |
| 831 | 1610 | - 6.4 | -10.5 | | |
| 814 | 1780 | - 7.8 | -13.7 | | |
| 800 | 1921 | | | 335 | 9 |
| 795 | 1990 | - 6.4 | -20.1 | | |
| 773 | 2190 | - 7.3 | -25.0 | | |
| 750 | 2420 | | | 300 | 10 |
| 700 | 2960 | - 9.0 | MB | 305 | 12 |

Station: Peoria, Ill.
Ascension Start: 0600 CST (12 March)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 993 | 200 | - 3.3 | - 5.0 | 310 | 3 |
| 982 | 290 | - 3.9 | - 7.0 | | |
| 950 | 540 | | | 356 | 8 |
| 900 | 971 | | | 010 | 10 |
| 878 | 1170 | - 9.5 | -10.8 | | |
| 862 | 1310 | - 6.5 | - 8.7 | | |
| 850 | 1415 | - 6.0 | -10.6 | 359 | 8 |
| 826 | 1640 | - 5.3 | -17.4 | | |
| 806 | 1830 | - 5.8 | -21.0 | | |
| 800 | 1891 | | | 347 | 12 |
| 750 | 2390 | | | 330 | 10 |
| 705 | 2870 | -12.9 | MB | | |
| 700 | 2921 | -12.9 | MB | 316 | 12 |

# Table 9 (continued). RAWINSONDE MEASUREMENTS

13 March 1965 Experiment No. 39 Tracer Release from 1220 to 1320 CST

Station: Columbia, Mo.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 993 | 238 | - 3.9 | - 5.0 | 040 | 2 |
| 974 | 380 | - 2.2 | - 5.6 | | |
| 950 | 580 | | | 160 | 2 |
| 913 | 880 | - 4.2 | - 6.6 | | |
| 900 | 1014 | | | 278 | 2 |
| 888 | 1100 | - 3.5 | -14.3 | | |
| 850 | 1466 | - 4.9 | -19.1 | 348 | 2 |
| 821 | 1720 | - 6.0 | -23.8 | | |
| 800 | 1941 | - 5.6 | MB | 324 | 5 |
| 750 | 2430 | | | 323 | 7 |
| 737 | 2570 | - 9.3 | -26.2 | | |
| 715 | 2800 | -10.3 | -20.0 | | |
| 700 | 2977 | -11.1 | -22.6 | 284 | 8 |

Station: Peoria, Ill.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 998 | 200 | - 6.7 | - 7.8 | 310 | 2 |
| 986 | 300 | - 2.6 | - 6.7 | | |
| 950 | 590 | | | 271 | 2 |
| 912 | 900 | - 6.3 | -10.3 | | |
| 900 | 1012 | | | 314 | 14 |
| 886 | 1120 | - 4.0 | -18.7 | | |
| 850 | 1462 | - 5.5 | -20.3 | 335 | 7 |
| 800 | 1936 | | | 332 | 8 |
| 751 | 2410 | -10.3 | -26.6 | | |
| 750 | 2420 | | | 318 | 9 |
| 712 | 2820 | -12.2 | -16.7 | | |
| 700 | 2965 | -13.1 | -17.7 | 308 | 9 |

14 March 1965 Experiment No. 40 Tracer Release from 1100 to 1200 CST

Station: Columbia, Mo.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 985 | 238 | 0.3 | - 0.4 | 340 | 4 |
| 950 | 510 | | | 328 | 7 |
| 900 | 958 | | | 330 | 11 |
| 886 | 1080 | - 6.2 | - 7.2 | | |
| 850 | 1404 | - 8.0 | -14.0 | 328 | 14 |
| 833 | 1560 | - 8.8 | -17.8 | | |
| 803 | 1840 | - 8.2 | -17.5 | | |
| 800 | 1875 | | | 297 | 15 |
| 750 | 2380 | | | 282 | 24 |
| 737 | 2500 | -10.6 | -14.5 | | |
| 700 | 2904 | -12.0 | -28.0 | 282 | 24 |

Station: Peoria, Ill.
Ascension Start: 0600 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 988 | 200 | 0.0 | - 1.1 | 300 | 6 |
| 950 | 510 | | | 324 | 9 |
| 911 | 850 | - 6.6 | - 8.3 | | |
| 900 | 934 | | | 322 | 11 |
| 895 | 990 | - 5.2 | - 8.6 | | |
| 850 | 1382 | - 7.6 | -14.2 | 315 | 11 |
| 800 | 1851 | | | 299 | 10 |
| 788 | 1980 | -11.0 | -24.2 | | |
| 765 | 2200 | -10.0 | -26.8 | | |
| 750 | 2350 | | | 287 | 12 |
| 700 | 2876 | -14.2 | MB | 280 | 17 |

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 989 | 238 | 9.6 | - 2.7 | 220 | 3 |
| 970 | 390 | 7.0 | - 7.5 | | |
| 950 | 560 | | | 220 | 3 |
| 906 | 960 | 1.9 | - 9.4 | | |
| 900 | 1005 | | | 232 | 5 |
| 890 | 1100 | 1.9 | -15.2 | | |
| 850 | 1464 | - 0.8 | -15.1 | 255 | 5 |
| 800 | 1946 | | | 255 | 5 |
| 750 | 2440 | | | 266 | 7 |
| 700 | 2985 | -11.5 | -17.9 | 268 | 11 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 993 | 200 | 3.9 | - 3.3 | 240 | 4 |
| 980 | 300 | 3.5 | - 6.5 | | |
| 950 | 550 | | | 232 | 6 |
| 918 | 830 | - 0.5 | - 9.2 | | |
| 900 | 988 | - 1.0 | -16.4 | 242 | 8 |
| 876 | 1200 | - 1.9 | - 7.7 | | |
| 850 | 1442 | - 3.6 | - 8.5 | 264 | 8 |
| 807 | 1850 | - 6.3 | - 9.3 | | |
| 800 | 1918 | | | 270 | 9 |
| 750 | 2410 | | | 286 | 11 |
| 700 | 2948 | -13.1 | -17.0 | 289 | 11 |

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 988 | 238 | 7.1 | - 2.0 | 310 | 3 |
| 974 | 360 | 4.4 | - 6.0 | | |
| 950 | 550 | | | 322 | 1 |
| 900 | 990 | | | 315 | 3 |
| 856 | 1390 | - 5.0 | - 8.7 | | |
| 850 | 1443 | - 4.9 | - 9.5 | 316 | 6 |
| 803 | 1900 | - 4.2 | -22.3 | | |
| 800 | 1920 | | | 309 | 10 |
| 780 | 2120 | - 6.0 | MB | | |
| 750 | 2430 | | | 303 | 12 |
| 716 | 2800 | - 6.1 | MB | | |
| 700 | 2967 | - 7.2 | MB | 291 | 13 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 992 | 200 | 1.1 | - 2.8 | 290 | 9 |
| 982 | 290 | 0.7 | - 6.1 | | |
| 950 | 550 | | | 298 | 8 |
| 913 | 860 | - 4.6 | - 7.8 | | |
| 900 | 968 | | | 312 | 8 |
| 889 | 1060 | - 4.6 | -12.9 | | |
| 850 | 1415 | - 7.5 | -17.9 | 316 | 10 |
| 846 | 1460 | - 7.6 | -17.7 | | |
| 804 | 1840 | - 7.6 | -22.2 | | |
| 800 | 1887 | | | 319 | 9 |
| 750 | 2390 | | | 316 | 14 |
| 748 | 2400 | - 9.3 | -26.3 | | |
| 700 | 2919 | -11.0 | MB | 308 | 14 |

## Table 9 (continued). RAWINSONDE MEASUREMENTS

15 March 1965 — Experiment No. 41 — Tracer Release from 2050 to 2150 CST

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 989 | 238 | 11.4 | - 3.2 | 300 | 5 |
| 972 | 380 | 9.0 | - 4.5 | | |
| 950 | 560 | | | 297 | 4 |
| 901 | 1000 | 3.1 | - 5.6 | | |
| 900 | 1016 | | | 285 | 5 |
| 853 | 1440 | 2.1 | -18.6 | | |
| 850 | 1479 | 1.8 | MB | 295 | 9 |
| 800 | 1964 | | | 292 | 11 |
| 788 | 2070 | - 2.9 | MB | | |
| 760 | 2360 | - 5.5 | -23.4 | | |
| 750 | 2460 | | | 270 | 16 |
| 710 | 2790 | - 9.9 | -23.5 | | |
| 700 | 3008 | -10.4 | -21.8 | 284 | 18 |

Station: Ivoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 993 | 200 | 5.6 | - 2.2 | 250 | 8 |
| 950 | 560 | | | 285 | 14 |
| 900 | 992 | | | 286 | 16 |
| 878 | 1180 | - 3.3 | -12.6 | | |
| 850 | 1446 | - 3.3 | -17.0 | 294 | 23 |
| 843 | 1500 | - 3.3 | -18.5 | | |
| 800 | 1924 | | | 296 | 27 |
| 781 | 2100 | - 6.2 | -21.8 | | |
| 750 | 2420 | | | 291 | 28 |
| 706 | 2890 | -12.4 | -28.4 | | |
| 700 | 2937 | -12.8 | MB | 293 | 29 |

16 March 1965 — Experiment No. 42 — Tracer Release from 2030 to 2130 CST

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 978 | 238 | 17.8 | 4.7 | 130 | 5 |
| 950 | 480 | | | 124 | 9 |
| 900 | 902 | | | 146 | 16 |
| 884 | 1090 | 11.0 | 0.1 | | |
| 850 | 1470 | 8.0 | - 0.5 | 148 | 16 |
| 800 | 1913 | | | 157 | 14 |
| 769 | 2220 | 0.4 | - 3.2 | | |
| 750 | 2420 | | | 182 | 13 |
| 726 | 2650 | - 1.5 | - 8.3 | | |
| 700 | 2903 | - 3.2 | -14.9 | 208 | 11 |

Station: Ivoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 991 | 200 | 6.7 | 1.7 | 060 | 8 |
| 950 | 530 | | | 100 | 14 |
| 912 | 870 | 1.8 | - 2.7 | | |
| 900 | 977 | | | 131 | 13 |
| 854 | 1410 | 3.7 | - 7.7 | | |
| 850 | 1450 | 3.6 | - 7.5 | 178 | 11 |
| 800 | 1939 | | | 186 | 11 |
| 764 | 2290 | - 3.4 | -12.1 | | |
| 750 | 2430 | | | 212 | 8 |
| 714 | 2820 | - 5.9 | -21.9 | | |
| 700 | 2993 | - 6.8 | -22.8 | 220 | 8 |

Station: Columbia, Mo.
Ascension Start: 0600 CST (16 March)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 988 | 238 | 3.9 | - 2.3 | 140 | 5 |
| 966 | 420 | 8.5 | - 1.6 | | |
| 950 | 560 | | | 179 | 9 |
| 934 | 700 | 8.9 | - 5.8 | | |
| 900 | 1006 | | | 230 | 8 |
| 888 | 1110 | 7.2 | - 4.6 | | |
| 850 | 1475 | 4.4 | - 7.7 | 254 | 9 |
| 835 | 1710 | 2.3 | -10.3 | | |
| 800 | 1965 | | | 272 | 8 |
| 750 | 2490 | | | 296 | 9 |
| 708 | 2940 | - 8.7 | -14.7 | | |
| 700 | 3049 | - 9.1 | -16.1 | 302 | 6 |

Station: Ivoria, Ill.
Ascension Start: 0600 CST (16 March)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 995 | 200 | - 3.9 | - 5.0 | 025 | 2 |
| 982 | 310 | 0.8 | - 5.9 | | |
| 950 | 580 | | | 305 | 4 |
| 942 | 640 | 3.3 | - 6.7 | | |
| 900 | 1006 | 0.8 | -16.5 | | |
| 882 | 1180 | 0.8 | -16.5 | | |
| 850 | 1465 | - 0.9 | -12.5 | 275 | 13 |
| 800 | 1947 | | | 280 | 19 |
| 799 | 1950 | - 3.6 | - 8.5 | | |
| 750 | 2450 | | | 288 | 25 |
| 701 | 2970 | -13.1 | -15.6 | | |
| 700 | 2985 | -13.0 | -15.7 | 289 | 24 |

Station: Columbia, Mo.
Ascension Start: 0600 CST (17 March)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 962 | 238 | 10.7 | 8.6 | 170 | 5 |
| 950 | 340 | | | 179 | 9 |
| 912 | 670 | 13.9 | 11.2 | | |
| 900 | 795 | | | 210 | 24 |
| 850 | 1273 | 9.3 | 3.9 | 229 | 26 |
| 800 | 1773 | | | 233 | 17 |
| 750 | 2300 | | | 226 | 15 |
| 742 | 2380 | 1.2 | -13.0 | | |
| 700 | 2850 | - 1.9 | -13.7 | 224 | 16 |

Station: Peoria, Ill.
Ascension Start: 0600 CST (17 March)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 971 | 200 | 5.6 | 3.9 | 100 | 9 |
| 950 | 390 | | | 133 | 15 |
| 931 | 550 | 4.4 | 1.2 | | |
| 900 | 822 | | | 172 | 18 |
| 870 | 1100 | 6.0 | 3.9 | | |
| 850 | 1290 | 4.9 | 2.8 | 194 | 18 |
| 800 | 1784 | | | 222 | 20 |
| 750 | 2400 | | | 234 | 16 |
| 700 | 2851 | - 4.3 | - 6.1 | 229 | 17 |

# Table 9 (continued). RAWINSONDE MEASUREMENTS

17 March 1965 Experiment No. 43 Tracer Release from 2000 to 2100 CST

Station: Columbia, Mo.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 979 | 238 | - 1.0 | - 5.4 | 300 | 13 |
| 967 | 320 | - 2.4 | - 8.5 | | |
| 950 | 470 | | | 296 | 13 |
| 900 | 903 | | | 285 | 13 |
| 850 | 1346 | -10.8 | -12.6 | 290 | 21 |
| 844 | 1400 | -11.2 | -12.8 | | |
| 800 | 1812 | | | 284 | 25 |
| 790 | 1910 | -10.5 | -13.0 | | |
| 750 | 2320 | | | 271 | 31 |
| 742 | 2400 | - 5.6 | -22.5 | | |
| 709 | 2750 | - 6.2 | -23.9 | | |
| 700 | 2854 | - 7.2 | -23.9 | 269 | 33 |

Station: Peoria, Ill.
Ascension Start: 1800 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 975 | 200 | 1.1 | - 2.2 | 260 | 10 |
| 950 | 400 | - 0.6 | - 5.2 | 265 | 16 |
| 900 | 834 | | | 274 | 24 |
| 850 | 1282 | - 7.3 | - 9.1 | 275 | 22 |
| 820 | 1500 | - 9.4 | -10.6 | | |
| 812 | 1630 | - 6.0 | - 7.6 | | |
| 800 | 1755 | | | 267 | 23 |
| 777 | 1980 | - 5.9 | - 7.9 | | |
| 753 | 2220 | - 7.2 | -17.7 | | |
| 750 | 2260 | | | 261 | 30 |
| 722 | 2550 | - 6.7 | -24.4 | | |
| 706 | 2730 | - 4.8 | -22.8 | | |
| 700 | 2800 | - 5.2 | -21.7 | 252 | 32 |

Station: Columbia, Mo.
Ascension Start: 0600 CST (18 March)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 992 | 238 | - 8.9 | -13.8 | 300 | 8 |
| 950 | 560 | | | 303 | 13 |
| 900 | 978 | | | 306 | 15 |
| 884 | 1110 | -17.2 | -20.7 | | |
| 869 | 1250 | -14.0 | -18.1 | | |
| 850 | 1410 | -13.6 | -19.8 | 307 | 17 |
| 800 | 1872 | | | 292 | 22 |
| 787 | 2010 | -12.3 | -28.8 | | |
| 784 | 2220 | -10.8 | MB | | |
| 750 | 2350 | | | 281 | 24 |
| 700 | 2893 | -14.2 | MB | 282 | 26 |

Station: Peoria, Ill.
Ascension Start: 0600 CST (18 March)

| P(mb) | Z(m) | T(°C) | $T_d$(°C) | D(deg) | S(m/s) |
|---|---|---|---|---|---|
| 990 | 200 | - 9.4 | -13.9 | 270 | 12 |
| 975 | 320 | -10.2 | -17.3 | | |
| 950 | 520 | | | 274 | 19 |
| 900 | 928 | | | 278 | 21 |
| 882 | 1090 | -18.5 | -22.3 | | |
| 850 | 1358 | -12.8 | -17.0 | 282 | 22 |
| 842 | 1430 | -11.4 | -15.8 | | |
| 800 | 1801 | | | 281 | 21 |
| 750 | 2320 | | | 276 | 23 |
| 745 | 2800 | -17.3 | -26.9 | | |
| 704 | 2800 | -18.6 | -33.4 | | |
| 700 | 2823 | -18.5 | MB | 269 | 26 |

## FREE AND TETHERED RADIOSONDE MEASUREMENTS

Available data[+] from free and tethered ascents made from the roof of the Federal Building are presented in Tables 10 through 12. For the evening experiments in which tethered radiosondes were to be substituted for free radiosondes, ascents were not attempted when winds in the lower 1000 feet (length of the tether) were forecast to exceed 25 mph. For free radiosonde launches, the pressure, height above MSL, temperature, and dew point of each mandatory and significant level up to 700 mb are listed in Table 10.

For the tethered radiosonde ascents, the time in CST, height above the surface, and temperature for each reported level are given in Table 11. Normally during launches the radiosonde was first ascended to maximum tether, then the tether was reeled in 100 feet at a time. At each level, the time and temperature were recorded and the angle between the base of the tether line and radiosonde was measured with a clinometer. Height above the surface was then calculated as the product of the sine of the clinometer angle and the length of tether between the surface and the radiosonde. The partially compensative errors involved with stretch and curvature of the tether line were ignored.

The techniques used in working up data from the free and tethered radiosonde ascents followed as closely as possible those described in U. S. Weather Bureau (1964 c).

---

[+]In some instances radiosondes were damaged at launch or in flight, resulting in lost data.

BLANK PAGE

TABLE 10. ST. LOUIS RADIOSONDE MEASUREMENTS

Symbols

P(mb) : Pressure in whole millibars

Z(m) : Height above MSL to the nearest whole meter for standard levels and to the nearest ten meters for all other levels

T(°C) : Temperature to the nearest tenth of a degree Celsius

$T_d$(°C) : Dew point to the nearest tenth of a degree Celsius

MB : Motor boating - relative humidity too low to be instrumentally measured

\- : Missing data



Preceding page blank

# Table 10 (continued). ST. LOUIS RADIOSONDE MEASUREMENTS

Experiment No. 4
19 July 1963
Tracer Release:1130 to 1230 CST
Ascension Start: 0959 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 991 | 194 | 30.4 | -- |
| 959 | 500 | 27.6 | 17.9 |
| 937 | 670 | 25.7 | 17.3 |
| 918 | 1240 | 23.1 | 12.1 |
| 856 | 1470 | 20.6 | 9.4 |
| 852 | 1520 | 20.2 | 7.8 |
| 845 | 1570 | [illegible] | 6.7 |
| 809 | 1943 | [illegible] | 3.5 |
| 762 | 2230 | 18.8 | - 2.4 |
| 700 | 3171 | [illegible] | -- |

Experiment No. 5
22 July 1963
Tracer Release:1134 to 1234 CST
Ascension Start: 1100 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 994 | 194 | 32.9 | 19.5 |
| 987 | 260 | 30.4 | 18.1 |
| 965 | 450 | 27.8 | 15.7 |
| 954 | 540 | 27.4 | 15.2 |
| 935 | 730 | 26.6 | 14.0 |
| 916 | 910 | 24.7 | 13.6 |
| 910 | 970 | 24.7 | 13.3 |
| 870 | 1370 | 23.4 | 11.0 |

Experiment No. 6
23 July 1963
Tracer Release:1130 to 1230 CST
Ascension Start: 1058 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 994 | 194 | 30.3 | -- |
| 986 | -- | 21.9 | -- |
| 965 | -- | 18.6 | -- |
| 850 | -- | 17.6 | -- |
| 828 | -- | 15.7 | -- |
| 770 | -- | 11.8 | -- |
| 700 | -- | [illegible] | -- |

Experiment No. 7
25 July 1963
Tracer Release:1040 to 1140 CST
Ascension Start: 1015 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 999 | 194 | 27.5 | 14.1 |
| 989 | 280 | 27.5 | 14.8 |
| 984 | 320 | 27.0 | 15.9 |
| 965 | 490 | 26.8 | 15.7 |
| 950 | 620 | 24.5 | 14.8 |
| 918 | 900 | 20.3 | 11.2 |
| 867 | 1430 | 18.8 | 11.9 |
| 850 | 1597 | 17.9 | 11.7 |
| 825 | 1850 | 14.9 | 6.7 |
| 800 | 2113 | 11.0 | NB |
| 700 | 3221 | 8.5 | NB |

Experiment No. 8
26 July 1963
Tracer Release:1045 to 1145 CST
Ascension Start: 0958 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 999 | 194 | 24.9 | 11.3 |
| 989 | 270 | 23.4 | 17.3 |
| 965 | 500 | 21.8 | 17.7 |
| 950 | 620 | 20.8 | 17.2 |
| 930 | 810 | 18.4 | 15.3 |
| 900 | 1099 | 17.9 | 15.1 |
| 850 | 1588 | 14.9 | 13.9 |
| 727 | 2900 | 8.6 | 2.2 |
| 700 | 3214 | 7.8 | 0.7 |

Experiment No. 9
12 September 1963
Tracer Release:1115 to 1215 CST
Ascension Start: 1130 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 1014 | 194 | 30.0 | 19.3 |
| 1004 | 280 | 28.6 | 18.0 |
| 1000 | 317 | 28.4 | 17.9 |
| 906 | 1190 | 23.7 | 15.4 |
| 857 | 1680 | 20.8 | 8.7 |
| 850 | 1745 | 22.6 | 8.4 |
| 846 | 1790 | 23.5 | 8.3 |
| 800 | 2268 | 17.3 | -- |

Experiment No. 11
16 September 1963
Tracer Release:1100 to 1200 CST
Ascension Start: 1100 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 1004 | 194 | 25.0 | 16.1 |
| 1000 | 228 | 24.4 | 14.6 |
| 925 | 900 | 16.7 | 13.3 |
| 916 | 990 | 16.7 | 14.2 |
| 894 | 1190 | 16.8 | 11.2 |
| 850 | 1621 | 14.0 | 9.9 |
| 772 | 2420 | 9.0 | 4.6 |
| 700 | 3230 | 5.9 | -- |

Experiment No. 12
17 September 1963
Tracer Release:2000 to 2030 CST
Ascension Start: 2000 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 1008 | 194 | 20.7 | 11.8 |
| 1000 | 258 | 20.6 | 8.8 |
| 992 | 300 | 20.5 | 5.3 |
| 938 | 810 | 18.7 | 5.7 |
| 927 | 900 | 20.6 | 7.6 |
| 871 | 1430 | 15.8 | 5.4 |
| 850 | 1652 | 14.1 | 5.1 |
| 802 | 2160 | 10.2 | 4.3 |
| 785 | 2290 | 9.6 | -2.7 |
| 770 | 2450 | 10.3 | -15.2 |
| 700 | 3267 | 6.1 | NB |

Experiment No. 13
18 September 1963
Tracer Release:2000 to 2100 CST
Ascension Start: 2000 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 998 | 194 | 23.6 | 6.4 |
| 970 | 440 | 23.7 | 6.9 |
| 945 | 670 | 22.6 | 6.7 |
| 891 | 1270 | 17.2 | 4.6 |
| 850 | 1584 | 13.5 | 3.2 |
| 827 | 1800 | 11.4 | 2.5 |
| 750 | 2631 | 11.4 | NB |

Experiment No. 14
1 April 1964
Tracer Release:1200 to 1300 CST
Ascension Start: 1100

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 997 | 194 | 9.6 | -10.6 |
| 983 | 340 | 7.5 | - 7.0 |
| 957 | 560 | 5.1 | - 6.2 |
| 923 | 840 | 4.7 | - 5.7 |
| 910 | 960 | 9.5 | - 1.3 |
| 897 | 1070 | 10.5 | 1.1 |
| 864 | 1400 | 9.1 | 2.9 |
| 850 | 1517 | 8.3 | 3.5 |
| 838 | 1640 | 7.4 | 3.2 |
| 826 | 1770 | 7.4 | 3.6 |
| 809 | 1930 | 6.0 | 3.2 |
| 764 | 2400 | 2.7 | - 0.7 |
| 709 | 3000 | -0.2 | -10.8 |
| 700 | 3097 | -1.1 | - 9.7 |

Experiment No. 15
6 April 1964
Tracer Release: 2040 to 2140 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 985 | 194 | 15.1 | 3.6 |
| 981 | 220 | 16.0 | 3.8 |
| 934 | 654 | 16.8 | 4.4 |

Experiment No. 16
7 April 1964
Tracer Release:2048 to 2148 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 997 | 194 | 6.7 | - 5.0 |
| 950 | 590 | 2.6 | - 5.2 |
| 946 | 610 | 1.6 | - 6.9 |
| 925 | 800 | 0.8 | - 5.9 |
| 900 | 1029 | -2.0 | - 8.1 |
| 850 | 1481 | -6.1 | - 9.5 |
| 831 | 1650 | -7.7 | -10.3 |
| 812 | 1840 | -7.6 | -10.8 |
| 806 | 1900 | -6.7 | -10.9 |
| 764 | 2310 | -6.9 | -19.9 |
| 739 | 2570 | -5.4 | -17.9 |
| 700 | 3000 | -5.4 | -18.2 |

# Table 10 (continued). ST. LOUIS RADIOSONDE MEASUREMENTS

Experiment No. 17
8 April 1964
Tracer Release: 2030 to 2130 CST
Ascension Start: 2030 CST

| P(mb) | Z(m) | T(° C) | $T_d$(° C) |
|---|---|---|---|
| 1004 | 194 | 4.7 | -- |
| 1000 | 227 | 4.7 | - 5.4 |
| 985 | 330 | 4.6 | - 5.5 |
| 936 | 750 | 2.8 | - 6.9 |
| 875 | 1290 | -0.8 | -10.2 |
| 850 | 1535 | -5.1 | -13.1 |
| 806 | 1950 | -6.5 | -14.9 |
| 790 | 2100 | -6.8 | -- |
| 773 | 2280 | -6.5 | -- |
| 717 | 2860 | -6.1 | -- |

Experiment No. 18
9 April 1964
Tracer Release: 2045 to 2145 CST
Ascension Start: 2045 CST

| P(mb) | Z(m) | T(° C) | $T_d$(° C) |
|---|---|---|---|
| 1000 | 194 | 13.0 | - 9.4 |
| 990 | 280 | 13.9 | - 9.4 |
| 948 | 620 | 11.1 | - 9.7 |
| 935 | 740 | 11.6 | - 8.9 |
| 874 | 1300 | 7.4 | - 7.1 |
| 850 | 1543 | 4.9 | - 8.3 |
| 816 | 1880 | 3.9 | -10.7 |
| 783 | 2200 | 0.2 | -13.6 |
| 778 | 2260 | - 1.5 | -12.5 |
| 746 | 2600 | - 3.8 | -14.1 |
| 718 | 2900 | - 6.7 | -14.8 |
| 700 | 3090 | - 9.3 | -16.3 |

Experiment No. 20
3 June 1964
Tracer Release: 1040 to 1140 CST
Ascension Start: 1051 CST

| P(mb) | Z(m) | T(° C) | $T_d$(° C) |
|---|---|---|---|
| 998 | 194 | 17.6 | 0.3 |
| 860 | 1430 | 5.5 | -1.4 |
| 850 | 1533 | 4.6 | -1.3 |
| 800 | 2.24 | 0.0 | -4.3 |

Experiment No. 21
4 June 1964
Tracer Release: 1030 to 1130 CST
Ascension Start: 1015 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 998 | 194 | 21.0 | -- |
| 984 | 300 | 20.6 | 5.3 |
| 940 | 690 | 16.5 | 4.6 |
| 922 | 850 | 16.2 | -2.3 |
| 850 | 1529 | 10.2 | -3.8 |
| 762 | 2430 | 2.5 | -- |
| 745 | 2620 | 2.3 | -- |
| 700 | 3147 | - 1.0 | -- |

Experiment No. 22
6 June 1964
Tracer Release: 1130 to 1230 CST
Ascension Start: 1115 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 993 | 194 | 23.4 | 12.9 |
| 982 | 280 | 19.4 | 10.3 |
| 917 | 870 | 13.8 | 9.7 |
| 858 | 1430 | 10.5 | 5.3 |
| 850 | 1513 | 9.9 | 4.5 |
| 806 | 1900 | 9.6 | 4.1 |
| 783 | 2400 | 2.6 | - 0.8 |
| 700 | 3094 | 0.1 | - 5.3 |

Experiment No. 23
7 June 1964
Tracer Release: 1132 to 1232 CST
Ascension Start: 1115 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 991 | 194 | 27.2 | 14.8 |
| 967 | 370 | 24.4 | 14.2 |
| 944 | 600 | 22.6 | 13.6 |
| 924 | 780 | 21.9 | 14.7 |
| 912 | 890 | 19.2 | 13.6 |
| 860 | 1390 | 14.5 | 12.5 |
| 850 | 1502 | 14.0 | 11.3 |
| 824 | 1750 | 13.7 | - 0.7 |
| 812 | 1884 | 14.8 | 1.3 |
| 796 | 2580 | 10.3 | - 0.8 |
| 700 | 3127 | 5.3 | - 1.3 |

Experiment No. 24
9 June 1964
Tracer Release: 1030 to 1130 CST
Ascension Start: 1015 CST

| P(mb) | Z(m) | T(° C) | $T_d$(° C) |
|---|---|---|---|
| 986 | 194 | 28.9 | 18.0 |
| 885 | 1150 | 20.7 | 14.1 |

Experiment No. 25
10 June 1964
Tracer Release: 1033 to 1133 CST
Ascension Start: 1015 CST

| P(mb) | Z(m) | T(° C) | $T_d$(° C) |
|---|---|---|---|
| 996 | 194 | 25.5 | 11.9 |
| 939 | 690 | 18.6 | 9.4 |
| 916 | 900 | 16.8 | 9.5 |
| 890 | 1140 | 17.0 | 6.5 |
| 864 | 1400 | 20.6 | - 1.8 |
| 850 | 1552 | 20.6 | - 3.8 |
| 810 | 1970 | 18.1 | 0.3 |
| 782 | 2370 | 14.7 | -10.1 |
| 748 | 2630 | 12.9 | -- |
| 731 | 2820 | 14.1 | -- |
| 700 | 3196 | 12.0 | -- |

Experiment No. 26
11 June 1964
Tracer Release: 1035 to 1135 CST
Ascension Start: 1015 CST

| P(mb) | Z(m) | T(° C) | $T_d$(° C) |
|---|---|---|---|
| 998 | 194 | 22.3 | 11.6 |
| 954 | 580 | 19.0 | 11.2 |
| 928 | 810 | 23.7 | 12.0 |
| 903 | 1050 | 21.4 | 15.5 |
| 850 | 1577 | 15.5 | -- |
| 815 | 1920 | 16.7 | -- |
| 750 | 2640 | 12.9 | -- |
| 700 | 3212 | 9.0 | -- |

Experiment No.27
10 October 1964
Tracer Release: 1130 to 1230 CST
Ascension Start: 1115 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 1010 | 194 | 6.3 | -8.3 |
| 1000 | 275 | 6.8 | -7.0 |
| 994 | 320 | 7.1 | -5.9 |
| 960 | 780 | 2.5 | -7.1 |
| 868 | 1240 | 0.1 | -- |
| 865 | 1450 | 2.7 | -- |
| 850 | 1590 | 2.9 | -- |
| 747 | 2640 | 4.4 | -- |
| 700 | 3167 | 2.4 | -- |

Experiment No. 28
11 October 1964
Tracer Release: 1105 to 1205 CST
Ascension Start: 1150 CST

| P(mb) | Z(m) | T(°C) | $T_d$(° C) |
|---|---|---|---|
| 1006 | 194 | 12.7 | - 6.2 |
| 1000 | 244 | 11.7 | - 6.8 |
| 981 | 390 | 8.4 | - 7.4 |
| 950 | 650 | 4.9 | - 8.9 |
| 940 | 740 | 3.9 | - 8.9 |
| 920 | 920 | 4.1 | -14.7 |
| 914 | 980 | 6.1 | -- |
| 873 | 1356 | 5.8 | -- |

Experiment No. 31
17 October 1964
Tracer Release: 1315 to 1415 CST
Ascension Start: 1352 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 990 | 194 | 28.0 | 12.3 |
| 975 | 310 | 25.0 | 2.4 |
| 909 | 920 | 19.0 | 3.6 |
| 850 | 1505 | 13.7 | 2.9 |
| 804 | 1970 | 11.8 | 2.2 |
| 785 | 2160 | 11.7 | 1.1 |
| 713 | 2950 | 5.7 | -10.4 |
| 700 | 3118 | 5.8 | -- |

# Table 10 (continued). ST. LOUIS RADIOSONDE MEASUREMENTS

Experiment No. 35
6 March 1965
Tracer Release: 1230 to 1330 CST
Ascension Start: 1253 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 1013 | -- | -0.2 | -- |
| 1000 | -- | 0.0 | -- |
| 967 | -- | -3.4 | -- |
| 960 | -- | -5.0 | -- |
| 903 | -- | -1.3 | -- |
| 884 | -- | -1.3 | -- |
| 872 | -- | -2.0 | |
| 850 | -- | -1.0 | -- |
| 722 | -- | -5.0 | -- |

Experiment No. 36
7 March 1965
Tracer Release: 1230 to 1330 CST
Ascension Start: 1221 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 995 | 196 | 0.8 | -4.1 |
| 983 | 300 | -0.2 | -4.2 |
| 940 | 650 | -4.0 | -6.3 |
| 876 | 1200 | -5.4 | -7.2 |
| 850 | 1435 | -6.5 | -6.2 |
| 750 | 2412 | -9.7 | -13.6 |

Experiment No. 37
8 March 1965
Tracer Release: 2030 to 2130
Ascension Start: 2033 CST CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 992 | 196 | -- | -- |
| 982 | 280 | 3.7 | -4.5 |
| 914 | 850 | -2.0 | -8.8 |
| 892 | 1050 | -2.6 | -8.2 |
| 854 | 1390 | -6.2 | -14.7 |
| 850 | 1433 | -6.2 | -14.7 |
| 842 | 1500 | -6.6 | -15.3 |
| 790 | 2000 | -11.5 | -- |
| 758 | 2300 | -10.0 | -- |
| 700 | 2928 | -13.8 | -- |

Experiment No. 39
13 March 1965
Tracer Release: 1220 to 1320 CST
Ascension Start: 1155 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 1003 | 194 | 4.8 | -9.4 |
| 1000 | 218 | 6.8 | -8.7 |
| 987 | 320 | 2.5 | -9.8 |
| 947 | 650 | -1.2 | -9.7 |
| 916 | 910 | -2.2 | -8.8 |
| 903 | 1030 | -3.2 | -10.8 |
| 890 | 1150 | -2.4 | -15.6 |
| 850 | 1513 | -4.1 | MB |
| 700 | 3025 | -11.2 | -26.3 |

Experiment No. 40
14 March 1965
Tracer Release: 1100 to 1200 CST
Ascension Start: 1059 CST

| P(mb) | Z(m) | T(°C) | $T_d$(°C) |
|---|---|---|---|
| 996 | 196 | 1.2 | -5.7 |
| 964 | 440 | -0.1 | -6.9 |
| 936 | 680 | -2.5 | -7.2 |
| 919 | 830 | -2.6 | -6.9 |
| 892 | 1070 | -4.9 | -9.7 |
| 850 | 1451 | -5.4 | -18.5 |
| 829 | 1640 | -5.9 | -18.0 |
| 784 | 2046 | -7.3 | |

TABLE 11. ST. LOUIS TETHERED RADIOSONDE MEASUREMENTS

Symbols

t(CST): Time in CST
Z(ft) : Height above the surface in whole feet
T(C) : Temperature to the nearest tenth of a degree Celsius

# Table 11. ST. LOUIS TETHERED RADIOSONDE MEASUREMENTS

Experiment No. 29
12 October 1964
Tracer Release: 2000 to 2100 CST
Ascension No. 1

| t(CST) | Z(ft) | T(°C) |
|---|---|---|
| 1909 | 650 | 15.2 |
| 1913 | 491 | 15.1 |
| 1915 | 414 | 15.1 |
| 1917 | 332 | 15.6 |
| 1921 | 260 | 15.5 |
| 1923 | 185 | 15.9 |

Experiment No. 29
12 October 1964
Tracer Release: 2000 to 2100 CST
Ascension No. 2

| t(CST) | Z(ft) | T(°C) |
|---|---|---|
| 2213 | 616 | 14.1 |
| 2215 | 625 | 14.1 |
| 2217 | 594 | 14.3 |
| 2219 | 566 | 14.1 |
| 2222 | 492 | 14.0 |
| 2223 | 410 | 13.9 |
| 2226 | 339 | 14.0 |
| 2228 | 257 | 14.1 |
| 2230 | 162 | 14.3 |
| 2232 | 87 | 14.3 |
| 2234 | sfc | 14.3 |

Experiment No. 30
16 October 1964
Tracer Release:2000 to 2100 CST
Ascension No. 1

| t(CST) | Z(ft) | T(°C) |
|---|---|---|
| 1827 | 996 | 23.8 |
| 1829 | 896 | 23.8 |
| 1832 | 800 | 23.9 |
| 1833 | 698 | 24.5 |
| 1838 | 599 | 24.6 |
| 1840 | 500 | 25.1 |
| 1842 | 400 | 25.2 |
| 1846 | 297 | 25.6 |
| 1848 | 200 | 25.9 |
| 1850 | 99 | 25.9 |
| 1853 | sfc | 26.1 |

Experiment No. 30
16 October 1964
Tracer Release: 2000 to 2100 CST
Ascension No. 2

| t(CST) | Z(ft) | T(°C) |
|---|---|---|
| 2136 | 920 | 19.3 |
| 2137 | 834 | 19.4 |
| 2142 | 756 | 19.4 |
| 2143 | 695 | 19.4 |
| 2144 | 564 | 19.4 |
| 2147 | 567 | 19.8 |
| 2150 | 473 | 19.8 |
| 2152 | 380 | 19.3 |

Experiment No. 32
19 October 1964
Tracer Release: 1945 to 2045 CST
Ascension No. 1

| t(CST) | Z(ft) | T(°C) |
|---|---|---|
| 2101 | 985 | 6.4 |
| 2105 | 846 | 6.0 |
| 2108 | 655 | 6.8 |
| 2110 | 573 | 6.7 |
| 2112 | 564 | 6.8 |
| 2115 | 433 | 7.3 |
| 2118 | 346 | 7.5 |
| 2120 | 212 | 7.8 |
| 2122 | 173 | 7.9 |
| 2125 | 98 | 8.0 |
| 2128 | sfc | 8.3 |

Experiment No. 33
20 October 1964
Tracer Release:1915 to 2015 CST
Ascension No. 1

| T(CST) | Z(ft) | T(°C) |
|---|---|---|
| 1915 | 766 | 11.7 |
| 1919 | 689 | 11.9 |
| 1920 | 630 | 12.5 |
| 1922 | 495 | 12.5 |

## SURFACE WIND MEASUREMENTS AT TRACER RELEASE SITES

Ten-minute averages of wind direction and speed at the tracer release sites are presented in Table 12. The periods of record vary considerably, although in each instance the interval of tracer dissemination is covered.

For the dissemination site at the Knights of Columbus Building, the data obtained were often unusable. Sometimes instrumentation was oriented with the recorder chart crossover direction too close to the most frequent wind direction, causing a wind direction trace to "paint" the entire width of the chart. At times, fluctuations in both the speed and direction traces were so large and frequent that averages could not be estimated. These cases of large fluctuations probably were the result of mechanical turbulence.

BLANK PAGE

TABLE 12. SURFACE WIND MEASUREMENTS AT TRACER RELEASE SITES

Symbols

Site A : Forest Park
Site B : Roof of the Knights of Columbus Building
D(deg) : Wind direction in whole degrees of azimuth
S(mph) : Wind speed in whole miles per hour
- : Missing data



Preceding page blank

# Table 12 (continued). SURFACE WIND MEASUREMENTS AT TRACER RELEASE SITES

Experiment No. 2
27 May 1963
Tracer Release: Site A
(1410 to 1440 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1330 | 215 | 6 |
| 40 | 238 | 5 |
| 50 | 225 | 6 |
| 1400 | 250 | 4 |
| 10 | 240 | 4 |
| 1420 | 242 | 4 |
| 30 | 228 | 4 |
| 40 | 247 | 6 |
| 50 | 234 | 6 |
| 1500 | 193 | 5 |
| 1510 | 210 | 5 |
| 20 | 223 | 5 |
| 30 | 230 | 5 |
| 40 | 225 | 5 |

Experiment No. 3
28 May 1963
Tracer Release: Site A
(1000 to 1100 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 0930 | 272 | 5 |
| 40 | 253 | 4 |
| 50 | 252 | 6 |
| 1000 | 255 | 7 |
| 10 | 267 | 6 |
| 1020 | 285 | 7 |
| 30 | - | 6 |
| 40 | - | 6 |
| 50 | 255 | 7 |
| 1100 | 282 | 5 |
| 1110 | 253 | 5 |
| 20 | 282 | 5 |
| 30 | 260 | 5 |

Experiment No. 4
19 July 1963
Tracer Release: Site A
(1130 to 1230 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1100 | 218 | |
| 10 | 225 | |
| 20 | 227 | |
| 30 | 232 | |
| 40 | 230 | |
| 1150 | 235 | MISSING |
| 1200 | 234 | |
| 10 | 221 | |
| 20 | 232 | |
| 30 | 223 | |
| 1240 | 212 | |
| 50 | 217 | |

Experiment No. 12
17 September 1963
Tracer Release: Site B
(2000 to 2030 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1930 | 114 | 8 |
| 40 | 108 | 9 |
| 50 | 115 | 8 |
| 2000 | 117 | 8 |
| 10 | 115 | 7 |
| 2020 | 114 | 7 |
| 30 | 110 | 7 |
| 40 | 110 | 7 |
| 50 | 108 | 7 |
| 2100 | 099 | 10 |

Experiment No. 13
18 September 1963
Tracer Release: Site B
(2000 to 2100 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1950 | - | 4 |
| 2000 | - | 4 |
| 10 | - | 4 |
| 20 | 040 | 4 |
| 30 | 043 | 4 |
| 2040 | 050 | 4 |
| 50 | 058 | 4 |
| 2100 | 076 | 3 |
| 10 | 070 | 4 |
| 20 | 060 | 3 |

Experiment No. 15
6 April 1964
Tracer Release: Site B
(2040 to 2140 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 2010 | 183 | 5 |
| 20 | 192 | 8 |
| 30 | 192 | 5 |
| 40 | 184 | 5 |
| 50 | 194 | 7 |
| 2100 | 224 | 7 |
| 10 | 282 | 10 |
| 20 | 281 | 4 |
| 30 | 267 | 7 |
| 40 | 287 | 8 |
| 2150 | 292 | 7 |
| 2200 | 278 | 5 |

Experiment No. 8
26 July 1963
Tracer Release: Site B
(1045 to 1145 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1020 | | 7 |
| 30 | | 5 |
| 40 | | 7 |
| 50 | | 8 |
| 1100 | | 7 |
| 1110 | MISSING | 7 |
| 20 | | 7 |
| 30 | | 7 |
| 40 | | 6 |
| 50 | | 7 |
| 1200 | | 6 |
| 10 | | 8 |
| 20 | | 8 |
| 30 | | - |
| 40 | | - |

Experiment No. 9
12 September 1963
Tracer Release: Site A
(1115 to 1215 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1050 | 284 | |
| 1100 | 297 | |
| 10 | 337 | |
| 20 | 320 | |
| 30 | 325 | |
| 1140 | 319 | MISSING |
| 50 | 328 | |
| 1200 | 327 | |
| 10 | 314 | |
| 20 | 320 | |
| 1230 | 322 | |
| 40 | 293 | |
| 50 | 327 | |
| 1300 | 316 | |
| 10 | 333 | |

Experiment No. 11
16 September 1963
Tracer Release: Site B
(1100 to 1200 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1030 | 130 | |
| 40 | 122 | |
| 50 | 115 | |
| 1100 | 105 | |
| 10 | 115 | |
| 1120 | 150 | MISSING |
| 30 | 120 | |
| 40 | 122 | |
| 50 | 112 | |
| 1200 | 132 | |
| 1210 | 118 | |
| 20 | 110 | |
| 30 | 116 | |

Experiment No. 16
7 April 1964
Tracer Release: Site A
(2048 to 2148 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 2010 | 307 | 4 |
| 20 | 303 | 6 |
| 30 | 306 | 5 |
| 40 | 309 | 6 |
| 50 | 302 | 7 |
| 2100 | 302 | 5 |
| 10 | 317 | 9 |
| 20 | 319 | 9 |
| 30 | 312 | 8 |
| 40 | 318 | 9 |
| 2150 | 314 | 7 |
| 2200 | 315 | 7 |
| 10 | 312 | 9 |

Experiment No. 17
8 April 1964
Tracer Release: Site A
(2030 to 2130 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 2000 | 262 | 3 |
| 10 | 262 | 3 |
| 20 | 254 | 4 |
| 30 | 266 | 3 |
| 40 | 263 | 4 |
| 2050 | 257 | 3 |
| 2100 | 263 | 3 |
| 10 | 261 | 4 |
| 20 | 267 | 5 |
| 30 | 265 | 4 |
| 2140 | 256 | 3 |
| 50 | 259 | 3 |

Experiment No. 18
9 April 1964
Tracer Release: Site A
(2045 to 2145 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 2020 | 222 | 2 |
| 30 | 220 | 2 |
| 40 | 203 | 2 |
| 50 | 224 | 2 |
| 2100 | 202 | 2 |
| 2110 | 204 | 2 |
| 20 | 205 | 3 |
| 30 | 214 | 3 |
| 40 | 206 | 3 |
| 50 | 206 | 3 |

## Table 12 (continued). SURFACE WIND MEASUREMENTS AT TRACER RELEASE SITES

Experiment No. 19
2 June 1964
Tracer Release:Site A
(1030 to 1130 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1000 | 310 | 6 |
| 10 | 322 | 6 |
| 20 | 342 | 5 |
| 30 | 312 | 6 |
| 40 | 287 | 7 |
| 1050 | 296 | 6 |
| 1100 | 278 | 7 |
| 10 | 291 | 6 |
| 20 | 323 | 6 |
| 30 | 283 | 7 |
| 1140 | 295 | 7 |
| 50 | 282 | 7 |

Experiment No. 20
3 June 1964
Tracer Release:Site A
(1040 to 1140 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1020 | 305 | 5 |
| 30 | 320 | 5 |
| 40 | 314 | 3 |
| 50 | 305 | 4 |
| 1100 | 273 | 4 |
| 1110 | 223 | 4 |
| 20 | 242 | 4 |
| 30 | 227 | 3 |
| 40 | 233 | 6 |
| 50 | 292 | 6 |
| 1200 | 270 | 4 |

Experiment No. 21
4 June 1964
Tracer Release:Site B
(1030 to 1130 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1010 | 200 | 5 |
| 20 | 191 | 4 |
| 30 | 190 | 4 |
| 40 | 194 | 4 |
| 50 | 152 | 4 |
| 1100 | 173 | 4 |
| 10 | 168 | 5 |
| 20 | 178 | 5 |
| 30 | 167 | 5 |
| 40 | 143 | 5 |
| 1150 | 157 | 4 |

Experiment No. 25
10 June 1964
Tracer Release:Site A
(1033 to 1133 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1000 | 315 | 3 |
| 10 | 286 | 4 |
| 20 | 261 | 4 |
| 30 | 237 | 3 |
| 40 | 318 | 4 |
| 1050 | 270 | 3 |
| 1100 | 264 | 3 |
| 10 | 273 | 4 |
| 20 | - | 3 |
| 30 | - | 3 |
| 1140 | - | 3 |
| 50 | - | 3 |

Experiment No. 26
11 June 1964
Tracer Release:Site B
(1035 to 1135 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1010 | | 6 |
| 20 | | 7 |
| 30 | | 9 |
| 40 | | 9 |
| 50 | | 8 |
| 1100 | MISSING | 5 |
| 10 | | 7 |
| 20 | | 8 |
| 30 | | 6 |

Experiment No. 27
10 October 1964
Tracer Release:Site B
(1130 to 1230 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1100 | | 3 |
| 10 | | 3 |
| 20 | | 5 |
| 30 | | 3 |
| 40 | | 5 |
| 1150 | MISSING | 5 |
| 1200 | | 4 |
| 10 | | 3 |
| 20 | | 5 |
| 30 | | 5 |

Experiment No. 22
6 June 1964
Tracer Release:Site A
(1130 to 1230 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1100 | 195 | 5 |
| 10 | 172 | 5 |
| 20 | 163 | 6 |
| 30 | 160 | 6 |
| 40 | 188 | 6 |
| 1150 | 180 | 6 |
| 1200 | 181 | 6 |
| 10 | 165 | 7 |
| 20 | 170 | 7 |
| 30 | 168 | 5 |
| 1240 | 171 | 5 |
| 50 | 188 | 5 |

Experiment No. 23
7 June 1964
Tracer Release:Site A
(1132 to 1232 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1100 | 208 | |
| 10 | 242 | |
| 20 | 207 | |
| 30 | 210 | |
| 40 | 255 | |
| 1150 | 237 | MISSING |
| 1200 | 233 | |
| 10 | 250 | |
| 20 | 255 | |
| 30 | 247 | |
| 1240 | 225 | |
| 50 | 235 | |

Experiment No. 24
9 June 1964
Tracer Release:Site A
(1030 to 1130 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1000 | 190 | 8 |
| 10 | 183 | 9 |
| 20 | 190 | 9 |
| 30 | 186 | 8 |
| 40 | 178 | 11 |
| 1050 | 181 | 10 |
| 1100 | 182 | 9 |
| 10 | 191 | 8 |
| 20 | 185 | 9 |
| 30 | 174 | 12 |
| 1140 | 174 | 9 |
| 50 | 183 | 10 |
| 1200 | 184 | 9 |

Experiment No. 28
11 October 1964
Tracer Release:Site B
(1105 to 1205 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1030 | | 6 |
| 40 | | 7 |
| 50 | | 7 |
| 1100 | | 6 |
| 10 | | 6 |
| 1120 | MISSING | 5 |
| 30 | | 6 |
| 40 | | 8 |
| 50 | | 6 |
| 1200 | | 6 |
| 1210 | | 6 |
| 20 | | 5 |
| 30 | | 6 |

Experiment No. 29
12 October 1964
Tracer Release:Site A
(2000 to 2100 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 2010 | 220 | |
| 20 | 280 | |
| 30 | 325 | |
| 40 | 323 | |
| 50 | 342 | |
| 2100 | 330 | MISSING |
| 10 | 315 | |
| 20 | 325 | |

Experiment No. 30
16 October 1964
Tracer Release:Site B
(2000 to 2100 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1950 | 144 | 1 |
| 40 | 160 | 2 |
| 50 | 183 | 2 |
| 2000 | 195 | 3 |
| 10 | 208 | 3 |
| 2020 | 200 | 2 |
| 30 | 208 | 2 |
| 40 | 191 | 2 |
| 50 | 204 | 2 |
| 2100 | 214 | 2 |
| 2110 | 203 | 2 |
| 20 | 195 | 3 |

## Table 12 (continued). SURFACE WIND MEASUREMENTS AT TRACER RELEASE SITES

Experiment No. 32
19 October 1964
Tracer Release:Site A
(1945 to 2045 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1930 | 330 | 3 |
| 40 | 357 | 3 |
| 50 | 350 | 4 |
| 2000 | 360 | 2 |
| 10 | 343 | 3 |
| 2030 | 337 | 4 |
| 40 | 338 | 3 |
| 50 | 335 | 2 |
| 2100 | 317 | 3 |
| 10 | 312 | 3 |
| 2130 | 293 | 3 |
| 40 | 294 | 3 |

Experiment No. 33
20 October 1964
Tracer Release:Site A
(1945 to 2045 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1940 | 356 | 4 |
| 50 | 210 | 4 |
| 1900 | 213 | 4 |
| 10 | 210 | 5 |
| 20 | 207 | 4 |
| 1930 | 206 | 5 |
| 40 | 198 | 4 |
| 50 | 212 | 4 |
| 2000 | 217 | 5 |
| 10 | 213 | 4 |
| 2030 | 203 | 4 |
| 30 | 210 | 5 |

Experiment No. 34
21 October 1964
Tracer Release:Site A
(1900 to 2020 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1940 | 348 | 3 |
| 50 | 354 | 4 |
| 1900 | 348 | 4 |
| 10 | 352 | 3 |
| 20 | 359 | 5 |
| 1930 | 356 | 4 |
| 40 | 358 | 4 |
| 50 | 346 | 3 |
| 2000 | 355 | 3 |
| 10 | 355 | 3 |
| 2020 | 353 | 3 |
| 30 | 347 | 3 |
| 40 | 347 | 4 |

Experiment No. 38
11 March 1965
Tracer Release:Site A
(2030 to 2130 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 2000 | 255 | 2 |
| 10 | 213 | 3 |
| 20 | 232 | 2 |
| 30 | 252 | 3 |
| 40 | 333 | 2 |
| 2050 | 336 | 3 |
| 2100 | 293 | 4 |
| 10 | 307 | 4 |
| 20 | 302 | 3 |
| 30 | 308 | 2 |
| 2140 | 343 | 3 |

Experiment No. 39
12 March 1965
Tracer Release:Site A
(1200 to 1300 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1150 | 275 | 3 |
| 1200 | 303 | 3 |
| 10 | 020 | 3 |
| 20 | 018 | 3 |
| 30 | 024 | 4 |
| 1240 | 007 | 5 |
| 50 | 327 | 4 |
| 1300 | 005 | 4 |
| 10 | 358 | 3 |
| 20 | 296 | 3 |
| 1330 | 319 | 3 |
| 40 | 023 | 3 |

Experiment No. 40
14 March 1965
Tracer Release:Site A
(1100 to 1200 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1030 | 303 | T |
| 40 | 303 | T |
| 50 | 293 | T |
| 1100 | 282 | T |
| 10 | 302 | T |
| 1120 | 292 | T |
| 30 | 309 | T |
| 40 | 297 | T |
| 50 | 300 | T |
| 1200 | 309 | T |
| 1210 | 302 | 9 |
| 20 | 307 | 8 |

Experiment No. 35
6 March 1965
Tracer Release:Site A
(1230 to 1330 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1200 | 298 | |
| 10 | 292 | |
| 20 | 292 | |
| 30 | 300 | |
| 40 | 291 | |
| 1250 | 293 | MISSING |
| 1300 | 290 | |
| 10 | 305 | |
| 20 | 294 | |
| 30 | 294 | |
| 1340 | 301 | |
| 50 | 292 | |

Experiment No. 36
7 March 1965
Tracer Release:Site A
(1230 to 1330 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1200 | 012 | |
| 10 | 027 | |
| 20 | 038 | |
| 30 | 016 | |
| 40 | 019 | |
| 1250 | 024 | MISSING |
| 1300 | 021 | |
| 10 | 013 | |
| 20 | 007 | |
| 30 | 333 | |
| 1340 | 350 | |

Experiment No. 37
8 March 1965
Tracer Release:Site A
(2030 to 2130 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 2000 | 282 | 8 |
| 10 | 290 | 8 |
| 20 | 283 | 7 |
| 30 | 287 | 5 |
| 40 | 282 | 6 |
| 2050 | 287 | 7 |
| 2100 | 278 | 6 |
| 10 | 274 | 5 |
| 20 | 286 | 5 |
| 30 | 281 | 5 |
| 2140 | 285 | 6 |

Experiment No.41
15 March 1965
Tracer Release:Site A
(2050 to 2150 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 2020 | 274 | 2 |
| 30 | 302 | 2 |
| 40 | 285 | 2 |
| 50 | 340 | 2 |
| 2100 | 350 | 2 |
| 2110 | 335 | 2 |
| 20 | 338 | 2 |
| 30 | 336 | 2 |
| 40 | 315 | 2 |
| 50 | 313 | 2 |
| 2200 | 304 | 2 |
| 10 | 317 | 2 |

Experiment No. 42
16 March 1965
Tracer Release:Site B
(2030 to 2130 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 2000 | | 9 |
| 10 | | 8 |
| 20 | | 6 |
| 30 | | 5 |
| 40 | | 7 |
| 2050 | MISSING | 10 |
| 2100 | | 10 |
| 10 | | 10 |
| 20 | | 10 |
| 30 | | 12 |
| 2140 | | 13 |

Experiment No. 43
17 March 1965
Tracer Release:Site A
(2000 to 2100 CST)

| t(CST) | D(deg) | S(mph) |
|---|---|---|
| 1930 | 302 | 13 |
| 40 | 298 | 12 |
| 50 | 300 | 10 |
| 2000 | 289 | 12 |
| 10 | 302 | 10 |
| 2020 | 280 | 12 |
| 30 | 302 | 12 |
| 40 | 307 | 10 |
| 50 | 311 | 9 |
| 2100 | 294 | 10 |
| 2110 | 276 | 12 |
| 20 | 292 | 10 |

## SURFACE WEATHER MEASUREMENTS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

Table 13 presents significant data from the hourly surface weather observations at WBAS St. Louis for the period about 3 hours before the tracer release to about 6 hours after it ended. Special and check observations would have been included had any yielded significant data. Only three cloud layers are listed, since no more than three layers were observed. Heights of the clouds are in hundreds of feet above the surface, amounts of sky cover are in tenths, and cloud movement directions are in compass points toward which the clouds move (compass points are represented by symbolic arrows). Times of observations are the times at which the final weather element, wind velocity, is measured. Beginning in 1964 wind directions were read to the nearest ten degrees of azimuth from which the wind is blowing rather than to the nearest 16 points of the compass. For uniformity in the reporting of winds, all wind directions are reported in terms of compass points. Observational techniques, rules, and symbolic abbreviations are given in U. S. Weather Bureau (1964 a).

# Table 13. SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

DATE 27 MAY 1963 EXPERIMENT NO 2 TRACER RELEASE FROM 1410 TO 1440 CST

| TIME (CST) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0755 | 10 | 10 | Sc | M50 | U | | | | U | | | | 10 | 2 | RW-F | 090 | 63 | 62 | WNW | 6 | | |
| 0855 | 10 | 3 | St | 5 | 4 | St | M9 | 7 | 3 | Sc | 50 | 10 | 10 | 7 | | 090 | 66 | 63 | NW | 7 | | RE05 |
| 0955 | 10 | 6 | Sc | M10 | 4 | Cu | 50 | 10 | U | | | | 10 | 10 | | 089 | 69 | 63 | WNW | 4 | | BINOVC |
| 1055 | 10 | 2 | Sc | 14 | 4 | Sc | M25 | 6 | 4 | Cu | 50 | 10 | 10 | 15 | | 089 | 69 | 63 | NW | 7 | | |
| 1155 | 9 | 7 | Cu | M20 | 2 | Cu | 40 | 9 | 0 | | | 9 | 9 | 15 | | 089 | 70 | 66 | WNW | 7 | | RB03E15 B25E35 |
| 1255 | 8 | 8 | Cu | M30 | 0 | | | 8 | 0 | | | 8 | 8 | 15+ | | 092 | 72 | 62 | W | 10 | | |
| 1355 | 8 | 3 | Cu | 30 | 5 | Ac | E100 | 8 | 0 | | | 8 | 8 | 15+ | | 092 | 72 | 62 | WNW | 8 | | |
| 1455 | 7 | 7 | Cu | M30 | 0 | | | 7 | 0 | | | 7 | 7 | 15+ | | 092 | 77 | 64 | WNW | 12 | | |
| 1555 | 6 | 6 | →Cu | E30 | 0 | | | 6 | 0 | | | 6 | 6 | 15 | | 092 | 74 | 63 | W | 13 | | |
| 1655 | 4 | 4 | →Sc | 30 | 0 | | | 4 | 0 | | | 4 | 4 | 15 | | 092 | 76 | 61 | WNW | 12 | | |
| 1755 | 5 | 5 | →Sc | 30 | 0 | | | 5 | 0 | | | 5 | 5 | 15 | | 096 | 74 | 62 | W | 13 | | |
| | | | | | | | | | | | | | | | | | | | | | | |

DATE 28 MAY 1963 EXPERIMENT NO 3 TRACER RELEASE FROM 1000 TO 1100 CST

| TIME (CST) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0355 | 1 | 1 | →Ci | / | 0 | | | 1 | 0 | | | 1 | 1 | 7 | | 099 | 62 | 60 | S | 8 | | |
| 0455 | 10 | 10 | →Sf | M6 | U | | | | U | | | | 10 | 6 | F | 103 | 62 | 61 | W | 13 | | |
| 0555 | 4 | 0 | →Sf | 7 | 4 | →Ci | / | 4 | 0 | | | 4 | 0 | 6 | F | 115 | 63 | 61 | W | 10 | | SF E |
| 0655 | 6 | 6 | →Sc | M12 | 0 | | | 6 | 0 | | | 6 | 6 | 7 | | 120 | 64 | 60 | W | 12 | | |
| 0755 | 7 | 7 | Sc | M15 | 0 | | | 7 | 0 | | | 7 | 7 | 15 | | 126 | 67 | 60 | WNW | 15 | | |
| 0855 | 8 | 3 | Sc | 20 | 5 | Sc | M30 | 8 | 0 | | | 8 | 8 | 15 | | 130 | 69 | 60 | W | 14 | +20 | |
| 0955 | 10 | 4 | Sc | 30 | 6 | Sc | M40 | 10 | U | | | | 10 | 15+ | | 126 | 68 | 58 | W | 15 | +25 | BINOVC |
| 1055 | 10 | 10 | Sc | M35 | U | | | | U | | | | 10 | 15+ | | 130 | 69 | 58 | WNW | 12 | | BINOVC |
| 1155 | 9 | 6 | Sc | M28 | 3 | Sc | 40 | 9 | 0 | | | 9 | 9 | 15+ | | 134 | 70 | 60 | WNW | 12 | +18 | |
| 1255 | 10 | 7 | Sc | M25 | 3 | Sc | 38 | 10 | U | | | | 10 | 15+ | | 137 | 68 | 59 | W | 10 | | |
| 1355 | 8 | 1 | Sc | 25 | 7 | Sc | M48 | 8 | 0 | | | 8 | 7 | 15+ | | 134 | 71 | 59 | W | 15 | +20 | |
| | | | | | | | | | | | | | | | | | | | | | | |

## Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS

DATE 19 JULY 1963 EXPERIMENT NO. 4 TRACER RELEASE FROM 1130 TO 1230 CST

| TIME (GST) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT. (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0455 | 1 | 1 | Ac | 80 | 0 | | | 1 | 0 | | | 1 | 1 | 15 | | 148 | 78 | 70 | SW | 6 | | |
| 0555 | 3 | 2 | Ac | 100 | 1 | Ci | / | 3 | 0 | | | 3 | 2 | 15 | | 152 | 78 | 70 | SW | 7 | | |
| 0655 | 4 | 1 | Ac | 100 | 3 | Cc | / | 4 | 0 | | | 4 | 4 | 15 | | 155 | 80 | 70 | SW | 8 | | |
| 0755 | 8 | 6 | Acc | E100 | 2 | Ci | / | 8 | 0 | | | 8 | 6 | 15 | | 169 | 81 | 70 | WNW | 5 | | Acc E-S MOVG SE |
| 0855 | 6 | 1 | Acc | 100 | 5 | Ci | / | 6 | 0 | | | 6 | 2 | 15 | | 163 | 85 | 71 | WSW | 9 | | Acc S |
| 0955 | 7 | 0 | Ac | 100 | 7 | Ci | / | 7 | 0 | | | 7 | 1 | 15 | | 163 | 87 | 71 | SW | 10 | | FEW Ac |
| 1055 | 2 | 0 | Cu | 45 | 2 | Ci | / | 2 | 0 | | | 2 | 0 | 15 | | 160 | 89 | 73 | SW | 12 | | FEW Cu N AND E |
| 1155 | 2 | 0 | Cu | 45 | 1 | Ac | 100 | 1 | 1 | Ci | / | 2 | 1 | 15 | | 152 | 91 | 73 | SW | 12 | | Cu BLDG W |
| 1255 | 2 | 0 | Cu | 45 | 2 | Ac | 90 | 2 | 0 | Ac | 150 | 2 | 2 | 15 | | 140 | 93 | 73 | WSW | 14 | | FEW Cu |
| 1355 | 0 | 0 | Cu | 45 | 0 | Ci | / | 0 | 0 | | | 0 | 0 | 15 | | 130 | 95 | 71 | SSW | 16 | | FEW Cu, Ci |
| 1455 | 1 | 0 | Cu | 45 | 1 | Cc | / | 1 | 0 | | | 1 | 1 | 15 | | 126 | 96 | 72 | SSW | 14 | +20 | |
| 1555 | 3 | 0 | Cu | 45 | 1 | Ac | 100 | 1 | 2 | Ci | / | 3 | 2 | 15 | | 120 | 96 | 71 | SSW | 11 | | FEW Cu |

DATE 22 JULY 1963 EXPERIMENT NO 5 TRACER RELEASE FROM 1104 TO 1204 CST

| TIME (GST) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT. (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0455 | 4 | 4 | Ac | 150 | 0 | | | 4 | 0 | | | 4 | 4 | 12 | | 132 | 71 | 64 | SW | 6 | | |
| 0555 | 4 | 4 | Ac | 180 | 0 | | | 4 | 0 | | | 4 | 4 | 12 | | 132 | 72 | 64 | WSW | 7 | | |
| 0655 | 7 | 7 | Ac | E180 | 0 | | | 7 | 0 | | | 7 | 7 | 12 | | 136 | 75 | 65 | S | 4 | | |
| 0755 | 8 | 8 | Ac | E180 | 0 | | | 8 | 0 | | | 8 | 7 | 12 | | 142 | 80 | 65 | S | 10 | | |
| 0855 | 7 | 3 | Cu | 40 | 4 | Ac | E180 | 7 | 0 | | | 7 | 6 | 12 | | 146 | 80 | 65 | SW | 6 | | |
| 0955 | 6 | 2 | Cu | 20 | 4 | Ac | E180 | 6 | 0 | | | 6 | 5 | 12 | | 142 | 81 | 68 | WSW | 9 | | |
| 1055 | 3 | 0 | Cu | 30 | 3 | Ac | 180 | 3 | 0 | | | 3 | 3 | 12 | | 136 | 84 | 68 | SW | 8 | | FEW Cu |
| 1155 | 4 | 1 | Cu | 45 | 3 | Ac | 180 | 4 | 0 | | | 4 | 4 | 15 | | 132 | 86 | 66 | S | 10 | | |
| 1255 | 2 | 1 | Cu | 45 | 1 | Ac | 180 | 2 | 0 | | | 2 | 2 | 15 | | 125 | 88 | 66 | S | 7 | | |
| 1355 | 3 | 3 | Cu | 45 | 0 | | | 3 | 0 | | | 3 | 3 | 15 | | 121 | 88 | 67 | SSW | 10 | | |
| 1455 | 4 | 3 | Cu | 50 | 1 | Ac | 80 | 4 | 0 | | | 4 | 4 | 15 | | 114 | 90 | 66 | SSE | 12 | | |

# Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS

DATE 23 JULY 1963 EXPERIMENT NO 6 TRACER RELEASE FROM 1130 TO 1230 CST

| TIME (CST) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR | SECOND LAYER HEIGHT | DURATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR | THIRD LAYER HEIGHT | DURATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0455 | 1 | 1 | Cb | 50 | 0 | | | 1 | 0 | | | 1 | 1 | 2 ½ | F | 132 | 69 | 67 | NNE | 5 | | CB SW |
| 0555 | 1 | 1 | Cb | 50 | 0 | | | 1 | 0 | | | 1 | 1 | 2 ½ | F | 139 | 72 | 69 | SE | 4 | | CB SW |
| 0655 | 1 | 1 | Cb | 50 | 0 | | | 1 | 0 | | | 1 | 1 | 1 ½ | F | 142 | 75 | 70 | SE | 5 | | CB SW |
| 0755 | 3 | 3 | Cu | 25 | 0 | | | 3 | 0 | | | 3 | 3 | 3 | K H | 149 | 80 | 70 | SE | 8 | | |
| 0855 | 6 | 6 | Cu | E30 | 0 | | | 6 | 0 | | | 6 | 6 | 5 | K H | 142 | 80 | 70 | SSE | 6 | | VSBY LWR E |
| 0955 | 7 | 7 | Cu | A22 | 0 | | | 7 | 0 | | | 7 | 7 | 5 | K H | 146 | 82 | 69 | ESE | 10 | | |
| 1055 | 7 | 7 | Cu | A25 | 0 | | | 7 | 0 | | | 7 | 7 | 7 | | 146 | 85 | 69 | ESE | 12 | | |
| 1155 | 7 | 7 | Cu | A25 | 0 | | | 7 | 0 | | | 7 | 7 | 7 | | 142 | 88 | 69 | SSE | 12 | | |
| 1255 | 5 | 5 | Cu | 30 | 0 | | | 5 | 0 | | | 5 | 5 | 7 | | 142 | 89 | 69 | E | 10 | | |
| 1355 | 4 | 4 | Cu | 40 | 0 | | | 4 | 0 | | | 4 | 4 | 7 | | 135 | 91 | 67 | ENE | 11 | | |
| 1445 | 3 | 3 | Cu | 50 | 0 | | | 3 | 0 | | | 3 | 3 | 7 | | 132 | 90 | 65 | ESE | 7 | | |
| 1555 | 2 | 2 | Cu | 50 | 0 | | | 2 | 0 | | | 2 | 2 | 10 | | 130 | 88 | 67 | ESE | 8 | | |

DATE 25 JULY 1963 EXPERIMENT NO 7 TRACER RELEASE FROM 1040 TO 1140 CST

| TIME (CST) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR | SECOND LAYER HEIGHT | DURATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR | THIRD LAYER HEIGHT | DURATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0355 | 0 | | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 188 | 67 | 63 | SE | 5 | | |
| 0455 | 0 | | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 191 | 67 | 63 | SE | 7 | | |
| 0555 | 0 | | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 195 | 69 | 64 | SE | 3 | | |
| 0655 | 0 | | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 201 | 75 | 66 | SE | 8 | | |
| 0755 | 0 | | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 204 | 78 | 67 | SSE | 4 | | |
| 0855 | 0 | | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 204 | 80 | 67 | SSE | 6 | | |
| 0955 | 0 | 0 | Cu | 45 | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 204 | 82 | 65 | SE | 8 | | FEW CU |
| 1055 | 3 | 3 | Cu | 45 | 0 | | | 3 | 0 | | | 3 | 3 | 7 | | 201 | 84 | 65 | SSE | 12 | | MDT CU ALQDS |
| 1155 | 3 | 3 | Cu | 45 | 0 | | | 3 | 0 | | | 3 | 3 | 10 | | 201 | 86 | 64 | SE | 10 | | |
| 1255 | 4 | 4 | Cu | 40 | 0 | | | 4 | 0 | | | 4 | 4 | 10 | | 193 | 87 | 64 | SE | 9 | | |
| 1355 | 4 | 4 | Cu | 40 | 0 | | | 4 | 0 | | | 4 | 4 | 12 | | 193 | 86 | 64 | SSE | 8 | | MDT CU ALQDS |
| 1455 | 6 | 6 | Cu | E40 | 0 | | | 6 | 0 | | | 6 | 6 | 12 | | 190 | 87 | 64 | SSE | 11 | | |

# Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS

DATE 26 JULY 1963 EXPERIMENT NO. 8 TRACER RELEASE FROM 1045 TO 1145 CST

| TIME (C.S.T.) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT. (°F) | WIND DIRECTION | WIND SPEED (kts) | WIND CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0355 | 0 | | | | 0 | | | 0 | 0 | | | 0 | 0 | 12 | | 194 | 70 | 64 | SE | 8 | | |
| 0455 | 0 | | | | 0 | | | 0 | 0 | | | 0 | 0 | 10 | | 201 | 68 | 64 | SE | 7 | | |
| 0555 | 0 | | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 205 | 70 | 65 | SE | 7 | | |
| 0655 | 0 | | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 208 | 74 | 67 | SE | 10 | | |
| 0755 | 0 | | | | 0 | | | 0 | 0 | | | 0 | 0 | 8 | | 211 | 76 | 67 | SE | 10 | | |
| 0855 | 3 | 3 | Cu* | 30 | 0 | | | 3 | 0 | | | 3 | 3 | 10 | | 208 | 80 | 68 | S | 8 | | |
| 0955 | 7 | 7 | Cu* | E28 | 0 | | | 7 | 0 | | | 7 | 7 | 8 | | 208 | 81 | 68 | SSE | 12 | | TCu ALQDS |
| 1055 | 7 | 7 | Cu* | M28 | 0 | | | 7 | 0 | | | 7 | 7 | 10 | | 208 | 80 | 68 | SSE | 15 | | |
| 1155 | 5 | 5 | Cu* | 30 | 0 | | | 5 | 0 | | | 5 | 5 | 10 | | 204 | 82 | 68 | SSE | 14 | | TCu ALQDS |
| 1255 | 6 | 6 | Cu* | E35 | 0 | | | 6 | 0 | | | 6 | 6 | 12 | | 197 | 85 | 66 | SSE | 14 | | TCu ALQDS |
| 1355 | 4 | 4 | Cu* | 35 | 0 | Ac* | 120 | 4 | 0 | | | 4 | 4 | 12 | | 190 | 85 | 65 | S | 12 | | TCu ALQDS |
| 1455 | 4 | 3 | Cu* | 35 | 1 | Ci | / | 4 | 0 | | | 4 | 4 | 12 | | 187 | 86 | 65 | S | 15 | | |

DATE 12 SEPTEMBER 1963 EXPERIMENT NO. 9 TRACER RELEASE FROM 1115 TO 1215 CST

| TIME (C.S.T.) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT. (°F) | WIND DIRECTION | WIND SPEED (kts) | WIND CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0455 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 10 | | 115 | 72 | 67 | W | 7 | | |
| 0555 | 3 | 3 | Ci→ | / | 0 | | | 3 | 0 | | | 3 | 1 | 10 | | 115 | 71 | 67 | W | 10 | | |
| 0655 | 6 | 6 | Ci→ | / | 0 | | | 6 | 0 | | | 6 | 2 | 10 | | 125 | 73 | 67 | W | 9 | | |
| 0755 | 2 | 2 | Ci→ | / | 0 | | | 2 | 0 | | | 2 | 0 | 12 | | 128 | 75 | 68 | W | 16 | | |
| 0855 | 2 | 2 | Ci→ | / | 0 | | | 2 | 0 | | | 2 | 0 | 15 | | 132 | 80 | 69 | WNW | 15 | | |
| 0955 | 2 | 0 | Cu→ | 35 | 2 | Ci→ | / | 2 | 0 | | | 2 | 0 | 15 | | 135 | 80 | 70 | NW | 10 | | CU W WND SHTD GRDLY |
| 1055 | 5 | 1 | Cu→ | 35 | 4 | Ci→ | / | 5 | 0 | | | 5 | 1 | 15 | | 139 | 84 | 69 | NW | 13 | | |
| 1155 | 8 | 4 | Cu→ | 60 | 4 | Ci→ | u | 8 | 0 | | | 8 | 7 | 15 | | 139 | 81 | 67 | NW | 9 | | |
| 1255 | 8 | 5 | Cu | 50 | 3 | Ci | u | 8 | 0 | | | 8 | 7 | 15 | | 142 | 83 | 66 | NNW | 12 | | |
| 1355 | 9 | 4 | Cu→ | 40 | 5 | Ci→ | u | 9 | 0 | | | 9 | 8 | 15 | | 145 | 80 | 64 | NNW | 13 | | |
| 1455 | 9 | 5 | Cu | 40 | 4 | Ci | u | 9 | 0 | | | 9 | 8 | 15 | | 139 | 82 | 64 | NNW | 13 | | |
| 1555 | 8 | 5 | Cu | 40 | 3 | Ci | u | 8 | 0 | | | 8 | 7 | 15 | | 139 | 80 | 66 | NNW | 17 | | |

# Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS

DATE 14 SEPTEMBER 1963 EXPERIMENT NO. 10 TRACER RELEASE FROM 1045 TO 1145 CST

| TIME (CST) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT (°F) | WIND DIRECTION | WIND SPEED (kts) | WIND CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0355 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 216 | 51 | 48 | ENE | 3 | | |
| 0455 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 216 | 49 | 45 | E | 7 | | KLYR |
| 0555 | 3 | 3 | Ci | / | 0 | | | 3 | 0 | | | 3 | 1 | 15 | | 223 | 48 | 47 | E | 5 | | |
| 0655 | 1 | 1 | Ci | / | 0 | | | 1 | 0 | | | 1 | 0 | 15 | | 226 | 51 | 49 | E | 6 | | |
| 0755 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 10 | | 225 | 55 | 50 | ESE | 7 | | |
| 0855 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 226 | 60 | 50 | ESE | 5 | | |
| 0955 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 10 | | 222 | 65 | 51 | E | 4 | | |
| 1055 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 218 | 69 | 53 | ENE | 6 | | |
| 1155 | 0 | 0 | Cu | 35 | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 214 | 71 | 52 | ESE | 8 | | FEW Cu |
| 1255 | 0 | 0 | Cu | 35 | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 216 | 72 | 53 | ENE | 5 | | FEW Cu |
| 1355 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 207 | 73 | 53 | ESE | 10 | | |
| 1455 | 0 | 0 | Cu | 40 | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 201 | 74 | 53 | ESE | 9 | | FEW Cu |

DATE 16 SEPTEMBER 1963 EXPERIMENT NO. 11 TRACER RELEASE FROM 1100 TO 1200 CST

| TIME (CST) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT (°F) | WIND DIRECTION | WIND SPEED (kts) | WIND CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0455 | 9 | 9 | Sc↑ | M39 | 0 | | | 9 | 0 | | | 9 | 9 | 5 | GF | 230 | 64 | 64 | SSE | 4 | | |
| 0555 | 10 | 10 | Sc↑ | M43 | U | | | | U | | | | 10 | 3 | GF | 234 | 65 | 64 | SE | 4 | | |
| 0655 | 10 | 10 | Sc↑ | M43 | U | | | | U | | | | 10 | 2 | GF | 238 | 66 | 64 | ESE | 5 | | HK LYR OVR CTY |
| 0755 | 2 | 2 | Sc↑ | 45 | 0 | | | 2 | 0 | | | 2 | 2 | 1½ | HK | 241 | 70 | 66 | SE | 8 | | |
| 0855 | 1 | 1 | Sc↑ | 60 | 0 | | | 1 | 0 | | | 1 | 1 | 4 | HK | 243 | 74 | 67 | SE | 7 | | |
| 0955 | 3 | 3 | Cu↑ | 30 | 0 | | | 3 | 0 | | | 3 | 3 | 5 | K | 247 | 77 | 66 | SE | 9 | | |
| 1055 | 3 | 3 | Cu↑ | 30 | 0 | | | 3 | 0 | | | 3 | 3 | 7 | | 244 | 79 | 66 | SE | 13 | | |
| 1155 | 4 | 4 | Cu↑ | 35 | 0 | | | 4 | 0 | | | 4 | 4 | 8 | | 240 | 80 | 66 | SE | 12 | | |
| 1255 | 4 | 4 | Cu↑ | 35 | 0 | | | 4 | 0 | | | 4 | 4 | 8 | | 230 | 80 | 65 | SE | 11 | | |
| 1355 | 4 | 4 | Cu↑ | 35 | 0 | | | 4 | 0 | | | 4 | 4 | 10 | | 227 | 81 | 65 | SE | 11 | | |
| 1455 | 5 | 5 | Cu↑ | 35 | 0 | | | 5 | 0 | | | 5 | 5 | 10 | | 223 | 82 | 63 | SSE | 13 | | |

# Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS

DATE 17 SEPTEMBER 1963 EXPERIMENT NO. 12 TRACER RELEASE FROM 2000 TO 2030 CST

| TIME (CST) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT (°F) | WIND DIRECTION | WIND SPEED (kts) | WIND CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1355 | 9 | 0 | Cu | 40 | 9 | Ci | / | 9 | 0 | | | 9 | 4 | 15 | | 237 | 84 | 61 | SSE | 6 | | FEW Cu |
| 1455 | 9 | 2 | Cu | 40 | 7 | Cs | / | 9 | 0 | | | 9 | 3 | 15 | | 229 | 84 | 60 | ESE | 8 | | |
| 1555 | 9 | 1 | Cu | 40 | 5 | Ac | E100 | 6 | 3 | Ci | / | 9 | 8 | 15 | | 226 | 81 | 60 | ESE | 7 | | |
| 1655 | 9 | 0 | Cu | 40 | 6 | Ac | E100 | 6 | 3 | Ci | / | 9 | 7 | 15 | | 223 | 81 | 61 | SE | 5 | | FEW Cu |
| 1755 | 8 | 6 | Ac | E120 | 2 | Ci | / | 8 | 0 | | | 8 | 7 | 15 | | 226 | 76 | 60 | SE | 7 | | |
| 1855 | 6 | 2 | Ac | 120 | 4 | Ci | / | 6 | 0 | | | 6 | 3 | 15 | | 226 | 72 | 59 | SE | 7 | | |
| 1955 | 2 | 2 | Ci | / | 0 | | | 2 | 0 | | | 2 | 1 | 15 | | 230 | 71 | 57 | SE | 5 | | |
| 2055 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 233 | 69 | 56 | SE | 8 | | |
| 2155 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 232 | 69 | 56 | SE | 7 | | |
| 2255 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 236 | 68 | 56 | SSE | 4 | | |
| 2355 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 233 | 64 | 58 | SSE | 3 | | |

DATE 18 SEPTEMBER 1963 EXPERIMENT NO. 13 TRACER RELEASE FROM 2000 TO 2100 CST

| TIME (CST) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT (°F) | WIND DIRECTION | WIND SPEED (kts) | WIND CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1355 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 6 | K | 202 | 82 | 54 | ENE | 8 | | WND VRBL |
| 1455 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 192 | 83 | 57 | SE | 7 | | WND VRBL |
| 1555 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 187 | 84 | 57 | NE | 3 | | WND LGT AND VRBL |
| 1655 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 185 | 81 | 58 | NE | 5 | | |
| 1755 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 185 | 77 | 56 | E | 5 | | |
| 1855 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 185 | 74 | 55 | E | 3 | | |
| 1955 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 188 | 72 | 52 | E | 3 | | |
| 2055 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 188 | 67 | 55 | E | 3 | | |
| 2155 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 185 | 65 | 56 | NNE | 3 | | |
| 2255 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 185 | 63 | 56 | ESE | 3 | | |
| 2355 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 184 | 63 | 54 | SE | 4 | | |

## Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS

DATE 1 APRIL 1964 EXPERIMENT NO. 14 TRACER RELEASE FROM 1200 TO 1300 CST

| TIME (CST) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0455 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 205 | 33 | 20 | ESE | 10 | | |
| 0555 | 6 | 6 | Ac | E120 | 0 | | | 6 | 0 | | | 6 | 4 | 5 | K | 205 | 32 | 21 | ESE | 9 | | BINOVC PIREPS W STL 80@180 RW- |
| 0655 | 10 | 10 | Ac | E90 | u | | | | u | | | | 10 | 5 | K | 210 | 33 | 22 | ESE | 13 | | BINOVC RB25 PIREPS 10W STL @V@120-130 |
| 0755 | 10 | 10 | Ac | E80 | u | | | | u | | | | 10 | 6 | RW-- K | 206 | 35 | 24 | SE | 12 | G23 | RE03 |
| 0855 | 8 | 8 | Ac | E80 | 0 | | | 8 | 0 | | | 8 | 8 | 7 | | 203 | 38 | 24 | SE | 13 | G21 | |
| 0955 | 8 | 8 | Ac | E80 | 0 | | | 8 | 0 | | | 8 | 8 | 7 | | 188 | 43 | 25 | SE | 15 | G25 | |
| 1055 | 8 | 8 | Ac | E80 | 0 | | | 8 | 0 | | | 8 | 8 | 7 | | 178 | 49 | 24 | SSE | 14 | G26 | |
| 1155 | 8 | 8 | Ac | E80 | 0 | | | 8 | 0 | | | 8 | 8 | 7 | | 164 | 52 | 27 | ESE | 15 | G25 | |
| 1255 | 10 | 10 | Ci | / | 0 | | | 10 | 0 | | | 10 | 5 | 10 | | 146 | 56 | 28 | SE | 14 | G21 | |
| 1355 | 10 | 3 | Ac | 80 | 7 | Cs | u | 10 | u | | | | 10 | 8 | | 140 | 56 | 28 | SE | 14 | G26 | BINOVC |
| 1455 | 10 | 3 | Sc | 50 | 3 | Ac | E80 | 6 | 4 | Cs | / | 10 | 10 | 8 | | 126 | 58 | 31 | SE | 15 | G25 | BINOVC RB14 E18 |
| 1555 | 10 | 3 | Sc | 50 | 3 | Ac | E80 | 6 | 4 | Cs | / | 10 | 9 | 8 | | 114 | 58 | 31 | SE | 15 | G23 | PRESFR |

DATE 6 APRIL 1964 EXPERIMENT NO. 15 TRACER RELEASE FROM 2040 TO 2140 CST

| TIME (C.S.T.) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1355 | 0 | 0 | | | 0 | | | | | | | 0 | 0 | 15 | | 042 | 76 | 46 | SSE | 17 | G23 | |
| 1455 | 0 | 0 | Cu | 30 | 0 | | | | | | | 0 | 0 | 15 | | 037 | 77 | 44 | S | 18 | G28 | LTGH TCU DIST NW FEW CU |
| 1555 | 3 | 0 | Cu | 45 | 2 | Ac | 80 | 2 | 1 | Ci | / | 3 | 3 | 15 | | 026 | 77 | 40 | SSW | 15 | G22 | FEW CU CB TOPS DIST NW |
| 1655 | 8 | 6 | Cb* | E40 | 2 | Ci→ | / | 8 | 0 | | | 8 | 8 | 15 | | 021 | 74 | 43 | SSE | 18 | | CB S-W-N MOVG NEWD RWU SW-NW |
| 1755 | 10 | 8 | Cm* | E45 | 2 | Ac→ | 80 | 10 | u | | | | 10 | 15 | RW- | 038 | 69 | 40 | W | 25 | G36 | CM ALQDS MOVG NEWD BINOVC RB30 |
| / | | | | | | | | | | | | | | | | | | | | | | PRIMP 4/1730C/40 OCNL LTGIC N |
| 1855 | 8 | 8 | Cb→ | E60 | 0 | | | 8 | 0 | | | 8 | 8 | 15 | | 037 | 67 | 41 | W | 5 | | CB SW-NE MOVG EWD RWU SW-NE RE03 |
| 1955 | 8 | 8 | Ac→ | E70 | 0 | | | 8 | 0 | | | 8 | 8 | 15 | | 046 | 67 | 39 | S | 10 | | |
| 2055 | 10 | 10 | Ac→ | M75 | u | | | | u | | | | 10 | 15 | RW- | 065 | 68 | 40 | W | 12 | | RB05 |
| 2155 | 10 | 10 | Ac→ | E75 | u | | | | u | | | | 10 | 15 | RW-- | 068 | 66 | 41 | SSW | 11 | | |
| 2255 | 10 | 10 | Ac→ | E75 | u | | | | u | | | | 10 | 15 | | 069 | 65 | 40 | WSW | 9 | | RE20 OCNL LTGIC SE |
| 2355 | 3 | 3 | Ac→ | 100 | 0 | | | 3 | 0 | | | 3 | 3 | 15 | | 063 | 62 | 40 | WSW | 4 | | OCNL LTGIC NE |

# Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS

DATE 7 APRIL 1964 EXPERIMENT NO. 16 TRACER RELEASE FROM 2048 TO 2148 CST

| TIME (C.S.T.) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT. (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1355 | 8 | 8 | Cu | E35 | 0 | | | 8 | 0 | | | 8 | 8 | 15 | | 147 | 51 | 31 | WNW | 20 | G26 | 35 @ 51 |
| 1455 | 10 | 10 | Cu | M40 | u | | | | u | | | | 10 | 15 | | 154 | 48 | 30 | WNW | 18 | G 25 | BINOVC |
| 1555 | 10 | 10 | Sc | M50 | u | | | | u | | | | 10 | 15 | | 158 | 46 | 29 | WNW | 19 | G25 | |
| 1655 | 10 | 8 | Sc | M40 | 2 | Sc | 50 | 10 | u | | | | 10 | 15 | | 165 | 45 | 29 | WNW | 21 | G26 | 23 E STL @ 70 |
| 1755 | 10 | 4 | Sc | 34 | 6 | Sc | M48 | 10 | u | | | | 10 | 15 | | 170 | 44 | 28 | NW | 16 | | |
| 1855 | 10 | 4 | Sc | 38 | 6 | Sc | M44 | 10 | u | | | | 10 | 15 | | 173 | 44 | 25 | NW | 20 | | |
| 1955 | 10 | 10 | Sc | M42 | u | | | | u | | | | 10 | 15 | | 184 | 43 | 26 | WNW | 14 | | @ 60 |
| 2055 | 10 | 10 | Sc | M42 | u | | | | u | | | | 10 | 15 | | 191 | 43 | 26 | WNW | 18 | | |
| 2155 | 10 | 8 | Sc | M38 | 2 | Sc | 46 | 10 | u | | | | 10 | 15 | | 198 | 42 | 26 | NW | 12 | | |
| 2255 | 10 | 10 | Sc | M42 | u | | | | u | | | | 10 | 15 | | 198 | 41 | 23 | NW | 17 | G25 | |
| 2355 | 10 | 10 | Sc | M38 | u | | | | u | | | | 10 | 15 | | 198 | 39 | 23 | NW | 18 | G26 | |
| | | | | | | | | | | | | | | | | | | | | | | |

DATE 8 APRIL 1964 EXPERIMENT NO. 17 TRACER RELEASE FROM 2030 TO 2130 CST

| TIME (C.S.T.) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT. (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1355 | 10 | 10 | Sc | M30 | u | | | | u | | | | 10 | 15 | | 244 | 38 | 23 | WNW | 14 | G23 | |
| 1455 | 10 | 10 | Sc | M35 | u | | | | u | | | | 10 | 15 | | 244 | 40 | 23 | WNW | 15 | G24 | |
| 1555 | 10 | 10 | Sc | M35 | u | | | | u | | | | 10 | 15 | | 244 | 41 | 24 | WNW | 17 | G23 | |
| 1655 | 10 | 10 | Sc | M48 | u | | | | u | | | | 10 | 15 | | 241 | 41 | 24 | WNW | 15 | G22 | BINOVC |
| 1755 | 6 | 6 | Sc | E50 | 0 | | | 6 | 0 | | | 6 | 6 | 15 | | 245 | 41 | 24 | WNW | 15 | | |
| 1855 | 0 | 0 | Sc | 50 | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 248 | 39 | 24 | W | 9 | | FEW SC |
| 1955 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 251 | 38 | 24 | W | 8 | | |
| 2055 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 255 | 38 | 24 | W | 10 | | |
| 2155 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 255 | 36 | 23 | W | 10 | | |
| 2255 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 258 | 36 | 23 | W | 10 | | |
| 2355 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 260 | 33 | 24 | W | 8 | | |
| | | | | | | | | | | | | | | | | | | | | | | |

# Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS

DATE 9 APRIL 1964 EXPERIMENT NO. 18 TRACER RELEASE FROM 2045 TO 2145 CST

| TIME (CST) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER ABT | LOWEST LAYER TYPE & DIR | LOWEST LAYER HEIGHT | SECOND LAYER ABT | SECOND LAYER TYPE & DIR | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER ABT | THIRD LAYER TYPE & DIR | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT (°F) | WIND DIRECTION | WIND SPEED (kts) | WIND CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1355 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 243 | 58 | 20 | W | 9 | G18 | |
| 1455 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 233 | 59 | 23 | W | 15 | | |
| 1555 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 224 | 60 | 21 | W | 13 | | |
| 1655 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 215 | 59 | 20 | WSW | 15 | | |
| 1755 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 212 | 58 | 20 | WSW | 10 | | |
| 1855 | 0 | 0 | Ac | 100 | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 208 | 55 | 20 | WSW | 5 | | FEW AC W |
| 1955 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 215 | 53 | 20 | SSW | 7 | | |
| 2055 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 215 | 52 | 20 | SSW | 7 | | |
| 2155 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 211 | 52 | 20 | SW | 7 | | |
| 2255 | 7 | 7 | Ac | E 70 | 0 | | | 7 | 0 | | | 7 | 7 | 15 | | 206 | 53 | 21 | SSW | 10 | | |
| 2355 | 1 | 1 | Ac | 70 | 0 | | | 1 | 0 | | | 1 | 1 | 15 | | 206 | 52 | 21 | SW | 7 | | |
| | | | | | | | | | | | | | | | | | | | | | | |

DATE 2 JUNE 1964 EXPERIMENT NO. 19 TRACER RELEASE FROM 1030 TO 1130 CST

| TIME (CST) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER ABT | LOWEST LAYER TYPE & DIR | LOWEST LAYER HEIGHT | SECOND LAYER ABT | SECOND LAYER TYPE & DIR | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER ABT | THIRD LAYER TYPE & DIR | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT (°F) | WIND DIRECTION | WIND SPEED (kts) | WIND CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0355 | 10 | 10 | Ac | E80 | u | | | | u | | | | 10 | 10 | | 159 | 57 | 50 | W | 6 | | |
| 0455 | 8 | 6 | Ac | E100 | 2 | Ci | / | 8 | 0 | | | 8 | 7 | 10 | | 162 | 56 | 49 | W | 6 | | |
| 0555 | 9 | 7 | Ac | E100 | 2 | Cs | / | 9 | 0 | | | 9 | 9 | 10 | | 162 | 56 | 49 | W | 9 | | |
| 0655 | 8 | 7 | Ac | E100 | 1 | Ci | / | 8 | 0 | | | 8 | 8 | 10 | | 166 | 58 | 48 | WNW | 10 | | |
| 0755 | 5 | 2 | Ac | 100 | 3 | Ci | / | 5 | 0 | | | 5 | 5 | 15 | | 171 | 58 | 48 | WNW | 10 | | |
| 0855 | 2 | 2 | Ac | 80 | 0 | Ci | / | 2 | 0 | | | 2 | 2 | 15 | | 170 | 64 | 48 | WNW | 11 | | |
| 0955 | 2 | 2 | Ac | 80 | 0 | | | 2 | 0 | | | 2 | 2 | 15 | | 166 | 67 | 49 | NW | 12 | | |
| 1055 | 2 | 1 | Cu | 45 | 1 | Ac | 80 | 2 | 0 | | | 2 | 2 | 15 | | 166 | 69 | 49 | NW | 13 | | |
| 1155 | 3 | 2 | Cu | 55 | 1 | Ac | 80 | 3 | 0 | | | 3 | 3 | 15 | | 161 | 71 | 46 | WNW | 11 | G 17 | |
| 1255 | 4 | 3 | Cu | 55 | 1 | Ac | 80 | 4 | 0 | | | 4 | 3 | 15 | | 158 | 72 | 48 | WNW | 15 | | |
| 1355 | 6 | 3 | Cu | 55 | 3 | Ac | E80 | 6 | 0 | | | 6 | 6 | 15 | | 152 | 70 | 44 | WNW | 12 | | |
| 1455 | 8 | 5 | Cu | 55 | 3 | Ac | E80 | 8 | 0 | | | 8 | 8 | 15 | | 152 | 72 | 48 | WNW | 12 | | |

# Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST LOUIS, MISSOURI (WBAS, LAMBERT FIELD) — SURFACE WEATHER OBSERVATIONS

DATE 3 JUNE 1964 — EXPERIMENT NO. 20 — TRACER RELEASE FROM 1040 TO 1140 CST

| TIME (CST) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & SHP | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & SHP | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & SHP | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT. (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0395 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 163 | 50 | 48 | WSW | 6 | | |
| 0455 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 167 | 50 | 47 | W | 4 | | |
| 0955 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 170 | 53 | 48 | W | 6 | | |
| 0455 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 176 | 54 | 45 | W | 9 | | |
| 0755 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 179 | 59 | 46 | W | 6 | | |
| 0855 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 179 | 65 | 47 | W | 8 | | |
| 0955 | 2 | 2 | Cu | 60 | 0 | | | 2 | 0 | | | 2 | 2 | 15 | | 176 | 70 | 47 | WSW | 8 | | |
| 1055 | 1 | 1 | Cu | 60 | 0 | | | 1 | 0 | | | 1 | 1 | 15 | | 176 | 68 | 48 | W | 8 | | |
| 1155 | 3 | 2 | Cu | 60 | 1 | Ci | / | 3 | 0 | | | 3 | 2 | 15 | | 169 | 70 | 47 | W | 11 | | |
| 1255 | 4 | 1 | Cu | 60 | 3 | Ci | / | 4 | 0 | | | 4 | 2 | 15 | | 169 | 71 | 48 | WSW | 12 | | |
| 1355 | 4 | 1 | Cu | 60 | 3 | Ci | / | 4 | 0 | | | 4 | 2 | 15 | | 163 | 72 | 44 | WSW | 14 | | |
| 1455 | 9 | 0 | Cu | 50 | 9 | Ci | / | 9 | 0 | | | 9 | 1 | 15 | | 160 | 75 | 43 | W | 6 | | CU DISPTG |

DATE 4 JUNE 1964 — EXPERIMENT NO 21 — TRACER RELEASE FROM 1030 TO 1130 CST

| TIME (CST) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & SHP | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & SHP | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & SHP | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT. (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0395 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 162 | 58 | 42 | S | 8 | | |
| 0495 | 3 | 3 | Ci | / | 0 | | | 3 | 0 | | | 3 | 1 | 15 | | 165 | 58 | 43 | S | 10 | | |
| 0955 | 9 | 9 | Ci | / | 0 | | | 9 | 0 | | | 9 | 1 | 15 | | 172 | 58 | 46 | ESE | 4 | | |
| 0455 | 10 | 10 | Ci | / | 0 | | | 10 | 0 | | | 10 | 3 | 15 | | 172 | 62 | 47 | S | 7 | | |
| 0755 | 10 | 10 | Ci | / | 0 | | | 10 | 0 | | | 10 | 3 | 15 | | 175 | 68 | 50 | S | 7 | | |
| 0855 | 10 | 10 | As | E120 | 4 | | | | 4 | | | | 10 | 15 | | 175 | 69 | 50 | SSW | 8 | | |
| 0955 | 10 | 10 | As | E120 | 4 | | | | 4 | | | | 10 | 15 | | 178 | 69 | 50 | S | 8 | | |
| 1055 | 10 | 10 | As | E120 | 4 | | | | 4 | | | | 10 | 15 | | 175 | 71 | 49 | S | 8 | | |
| 1155 | 10 | 10 | As | E120 | 0 | | | 10 | 0 | | | 10 | 8 | 15 | | 172 | 75 | 52 | SSE | 8 | | |
| 1255 | 7 | 7 | As | E120 | 0 | | | 7 | 0 | | | 7 | 4 | 15 | | 170 | 75 | 52 | S | 10 | | |
| 1355 | 10 | 10 | As | E120 | 4 | | | | 4 | | | | 10 | 15 | | 165 | 75 | 49 | SSE | 10 | | |
| 1455 | 10 | 10 | As | A95 | 4 | | | | 4 | | | | 10 | 15 | | 162 | 73 | 48 | SE | 10 | | |

# Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS

DATE 6 JUNE 1964 EXPERIMENT NO. 22 TRACER RELEASE FROM 1130 TO 1230 CST

| TIME (CST) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR. | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR. | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR. | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT. (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0455 | 10 | 7 | Ac | E70 | 3 | Ac | 100 | 10 | 4 | | | | 10 | 8 | | 131 | 64 | 64 | S | 6 | | BINOVC |
| 0555 | 10 | 7 | Ac | B70 | 3 | Ac | 100 | 10 | 4 | | | | 10 | 7 | | 137 | 64 | 64 | SSW | 4 | | |
| 0655 | 10 | 10 | Ac | E80 | 4 | | | | 4 | | | | 10 | 10 | | 137 | 67 | 64 | SSW | 6 | | BINOVC |
| 0755 | 9 | 9 | Ac | E80 | 0 | | | 9 | 0 | | | 9 | 9 | 10 | | 137 | 68 | 64 | SW | 7 | | |
| 0855 | 9 | 9 | Ac | E80 | 0 | | | 9 | 0 | | | 9 | 8 | 10 | | 137 | 69 | 64 | SW | 9 | | |
| 0955 | 1 | 1 | Ac | 80 | 0 | | | 1 | 0 | | | 1 | 1 | 12 | | 137 | 73 | 67 | S | 6 | | |
| 1055 | 2 | 0 | Cu | 40 | 2 | Ac | 80 | 2 | 0 | | | 2 | 2 | 12 | | 132 | 77 | 69 | SSW | 7 | | CU FRMG |
| 1155 | 9 | 6 | Cu↑ | E38 | 1 | Ac↗ | 100 | 7 | 2 | Ci | / | 9 | 7 | 12 | | 128 | 80 | 68 | WSW | 10 | | BLDG CU NE SW W |
| 1255 | 10 | 6 | Cu↑ | E38 | 0 | Ac↗ | 90 | 6 | 4 | Ci | / | 10 | 7 | 12 | | 121 | 80 | 67 | S | 9 | | ⊕V① BINOVC TWRG CU W-N-E |
| 1355 | 10 | 1 | Cu | 35 | 6 | Cu | E40 | 7 | 3 | Ci | / | 10 | 7 | 12 | | 114 | 81 | 66 | SW | 10 | G 17 | BINOVC |
| 1455 | 8 | 6 | Cu↗ | E40 | 2 | Ci→ | / | 8 | 0 | | | 8 | 8 | 15 | | 112 | 81 | 67 | SW | 12 | | TCU ALQDS |
| 1555 | 7 | 4 | Cu↗ | 40 | 3 | Ci→ | 4 | 7 | 0 | | | 7 | 7 | 15 | | 109 | 81 | 65 | SW | 13 | | TCU ALQDS |

DATE 7 JUNE 1964 EXPERIMENT NO. 23 TRACER RELEASE FROM 1138 TO 1238 CST

| TIME (CST) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR. | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR. | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR. | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT. (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0455 | 0 | 0 | Ci | / | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 109 | 66 | 65 | SSW | 5 | | FEW CI |
| 0555 | 0 | 0 | Ci | / | 0 | | | 0 | 0 | | | 0 | 0 | 8 | | 109 | 69 | 66 | S | 5 | | FEW CI |
| 0655 | 7 | 7 | Ci | / | 0 | | | 7 | 0 | | | 7 | 0 | 8 | | 109 | 71 | 67 | SW | 8 | | |
| 0755 | 10 | 10 | Ci | / | 0 | | | 10 | 0 | | | 10 | 0 | 8 | | 110 | 75 | 68 | SSW | 8 | | |
| 0855 | 7 | 0 | Ac | 100 | 7 | Ci | / | 7 | 0 | | | 7 | 1 | 10 | | 111 | 78 | 68 | WSW | 11 | | |
| 0955 | 10 | 0 | Cu | 40 | 0 | Ac | 100 | 0 | 10 | Ci | / | 10 | 2 | 10 | | 108 | 80 | 68 | WSW | 8 | | CU FRMG AC NW |
| 1055 | 10 | 1 | Cu | 40 | 2 | Ac | 100 | 3 | 7 | Ci | / | 10 | 4 | 10 | | 110 | 81 | 67 | WSW | 10 | G 15 | |
| 1155 | 10 | 9 | Cu | E32 | 0 | Ac | 100 | 9 | 1 | Ci | / | 10 | 10 | 12 | | 110 | 81 | 67 | S | 10 | | BINOVC |
| 1255 | 10 | 2 | Cu | 35 | 4 | Ac | E100 | 6 | 4 | Ci | / | 10 | 9 | 12 | | 103 | 80 | 66 | WSW | 12 | | THIN SPOTS IN OVC |
| 1355 | 10 | 1 | Cu | 30 | 1 | Ac | 80 | 2 | 8 | Cs | 4 | 10 | 8 | 12 | | 101 | 82 | 67 | WSW | 9 | | |
| 1455 | 10 | 3 | Cu | 30 | 2 | Ac | 80 | 5 | 5 | Cs | 4 | 10 | 9 | 12 | | 098 | 82 | 68 | S | 8 | | |
| 1555 | 10 | 3 | Cu | 30 | 3 | Ac | E80 | 6 | 4 | Cs | / | 10 | 10 | 12 | | 088 | 82 | 69 | SW | 5 | | |

# Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS

DATE 9 JUNE 1964 EXPERIMENT NO. 24 TRACER RELEASE FROM 1030 TO 1130 CST

| TIME (C.S.T.) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT. | LOWEST LAYER TYPE & DIR. | LOWEST LAYER HEIGHT | SECOND LAYER AMT. | SECOND LAYER TYPE & DIR. | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT. | THIRD LAYER TYPE & DIR. | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS. (mbs) | TEMP. (°F) | DEW PT. (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0355 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 10 | | 042 | 77 | 67 | SSW | 15 | | |
| 0455 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 12 | | 042 | 76 | 67 | SSW | 18 | G28 | |
| 0555 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 12 | | 047 | 76 | 67 | SW | 11 | | |
| 0655 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 12 | | 058 | 76 | 68 | SSW | 11 | | |
| 0755 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 12 | | 058 | 78 | 69 | SSW | 13 | | |
| 0855 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 12 | | 054 | 80 | 69 | SSW | 12 | G20 | |
| 0955 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 12 | | 054 | 82 | 70 | SW | 13 | G20 | |
| 1055 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 12 | | 054 | 85 | 71 | SW | 12 | G18 | |
| 1155 | 1 | 1 | Cu | 30 | 0 | | | 1 | 0 | | | 1 | 1 | 12 | | 054 | 86 | 71 | SSW | 13 | G21 | |
| 1255 | 6 | 6 | Cu | E 30 | 0 | | | 6 | 0 | | | 6 | 6 | 12 | | 054 | 87 | 72 | WSW | 15 | G27 | |
| 1355 | 7 | 7 | Cu | E 30 | 0 | | | 7 | 0 | | | 7 | 7 | 12 | | 054 | 87 | 72 | SW | 17 | G28 | |
| 1455 | 6 | 2 | Cu | 35 | 4 | Sc | E 50 | 6 | 0 | | | 6 | 6 | 15 | | 058 | 88 | 74 | SW | 15 | G25 | |

DATE 10 JUNE 1964 EXPERIMENT NO. 25 TRACER RELEASE FROM 1033 TO 1133 CST

| TIME (C.S.T.) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT. | LOWEST LAYER TYPE & DIR. | LOWEST LAYER HEIGHT | SECOND LAYER AMT. | SECOND LAYER TYPE & DIR. | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT. | THIRD LAYER TYPE & DIR. | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS. (mbs) | TEMP. (°F) | DEW PT. (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0355 | 7 | 4 | Sc | 30 | 3 | Cs | 4 | 7 | 0 | | | 7 | 7 | 15 | | 128 | 69 | 59 | NW | 7 | | |
| 0455 | 7 | 7 | Cs | 4 | 0 | | | 7 | 0 | | | 7 | 5 | 15 | | 136 | 67 | 60 | NW | 6 | | |
| 0555 | 7 | 7 | Cs | 4 | 0 | | | 7 | 0 | | | 7 | 5 | 15 | | 146 | 70 | 60 | N | 8 | | |
| 0655 | 10 | 10 | Ci | / | 0 | | | 10 | 0 | | | 10 | 4 | 15 | | 153 | 70 | 60 | N | 8 | | |
| 0755 | 8 | 8 | Ci | / | 0 | | | 8 | 0 | | | 8 | 2 | 15 | | 160 | 71 | 60 | N | 12 | | |
| 0855 | 2 | 2 | Ci | / | 0 | | | 2 | 0 | | | 2 | 1 | 15 | | 163 | 72 | 62 | N | 6 | | |
| 0955 | 0 | 0 | Ci | / | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 163 | 73 | 64 | NNW | 7 | | Ci SE |
| 1055 | 0 | 0 | Ci | / | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 167 | 76 | 65 | WNW | 8 | | Ci SE WND DIR VRBL |
| 1155 | 0 | 0 | Ci | / | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 167 | 78 | 64 | NW | 7 | | Ci SE |
| 1255 | 0 | 0 | Ci | / | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 166 | 80 | 66 | WNW | 11 | | Ci SE |
| 1355 | 0 | 0 | Ci | / | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 160 | 81 | 66 | WNW | 9 | | Ci E-S |
| 1455 | 0 | 0 | Ci | / | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 160 | 82 | 66 | NW | 7 | | FEW Ci |

# Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS

DATE 11 JUNE 1964 EXPERIMENT NO. 26 TRACER RELEASE FROM 1035 TO 1135 CST

| TIME (CST) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR. | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR. | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR. | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS. (mbs) | TEMP (°F) | DEW PT (°F) | WIND: DIRECTION | WIND: SPEED (kns) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0355 | 7 | 7 | Ci | / | 0 | | | 7 | 0 | | | 7 | 2 | 15 | | 185 | 61 | 58 | ENE | 7 | | |
| 0455 | 10 | 10 | Ci | / | 0 | | | 10 | 0 | | | 10 | 4 | 10 | | 188 | 60 | 57 | ENE | 8 | | |
| 0555 | 10 | 10 | Cs | U | 0 | | | 10 | 0 | | | 10 | 6 | 10 | | 185 | 60 | 57 | E | 8 | | |
| 0655 | 10 | 10 | Cs | U | 0 | | | 10 | 0 | | | 10 | 7 | 10 | | 189 | 61 | 58 | SE | 4 | | |
| 0755 | 10 | 10 | Cs | U | 0 | | | 10 | 0 | | | 10 | 8 | 10 | | 189 | 65 | 59 | E | 8 | | |
| 0855 | 10 | 1 | Ac | 100 | 9 | Cs | U | 10 | 0 | | | 10 | 7 | 10 | | 189 | 69 | 62 | ESE | 8 | | HAZE E |
| 0955 | 8 | 1 | Ac | 100 | 7 | Cs | U | 8 | 0 | | | 8 | 7 | 10 | | 179 | 70 | 63 | E | 9 | | HAZE E |
| 1055 | 8 | 2 | Ac | 100 | 6 | Cs | U | 8 | 0 | | | 8 | 6 | 10 | | 161 | 76 | 66 | ESE | 10 | | HAZE E |
| 1155 | 7 | 2 | Ac | 100 | 5 | Cs | U | 7 | 0 | | | 7 | 6 | 10 | | 167 | 81 | 68 | SE | 10 | | HAZE E |
| 1255 | 4 | 3 | Ac | 100 | 1 | Cc | / | 4 | 0 | | | 4 | 3 | 10 | | 164 | 82 | 69 | S | 12 | | |
| 1355 | 7 | 7 | Ci | / | 0 | | | 7 | 0 | | | 7 | 3 | 10 | | 160 | 84 | 70 | SE | 7 | | |
| 1455 | 8 | 3 | Ac | 140 | 5 | Ci | / | 8 | 0 | | | 8 | 4 | 10 | | 150 | 86 | 71 | ESE | 3 | | |

DATE 10 OCTOBER 1964 EXPERIMENT NO. 27 TRACER RELEASE FROM 1130 TO 1230 CST

| TIME (CST) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR. | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR. | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR. | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS. (mbs) | TEMP (°F) | DEW PT (°F) | WIND: DIRECTION | WIND: SPEED (kns) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0455 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 289 | 31 | 30 | | C | | |
| 0555 | 0 | 0 | Ci | / | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 293 | 30 | 30 | | C | | FEW CI |
| 0655 | 0 | 0 | Ci | / | 0 | | | 0 | 0 | | | 0 | 0 | 12 | | 297 | 29 | 29 | NE | 6 | | FEW CI |
| 0755 | 2 | 2 | Ci | / | 0 | | | 2 | 0 | | | 2 | 0 | 8 | | 303 | 37 | 36 | NE | 4 | | |
| 0855 | 3 | 3 | Ci | / | 0 | | | 3 | 0 | | | 3 | 0 | 10 | | 310 | 42 | 32 | ENE | 8 | | |
| 0955 | 6 | 6 | Ci | / | 0 | | | 6 | 0 | | | 6 | 0 | 15 | | 310 | 47 | 31 | ENE | 5 | | |
| 1055 | 8 | 8 | Ci | / | 0 | | | 8 | 0 | | | 8 | 1 | 15 | | 309 | 51 | 30 | ENE | 8 | | |
| 1155 | 8 | 8 | Ci | / | 0 | | | 8 | 0 | | | 8 | 1 | 15 | | 299 | 53 | 30 | NNE | 10 | | |
| 1255 | 8 | 8 | Ci | / | 0 | | | 8 | 0 | | | 8 | 1 | 15 | | 288 | 54 | 30 | NNW | 4 | | WND VRBL |
| 1355 | 5 | 5 | Ci | / | 0 | | | 5 | 0 | | | 5 | 0 | 15 | | 281 | 55 | 27 | NW | 5 | | WND VRBL |
| 1455 | 3 | 3 | Ci | / | 0 | | | 3 | 0 | | | 3 | 1 | 15 | | 278 | 57 | 27 | NE | 5 | | WND VRBL |
| 1555 | 2 | 2 | Ci | / | 0 | | | 2 | 0 | | | 2 | 1 | 15 | | 275 | 55 | 25 | E | 4 | | WND LGT AND VRBL |

# Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS

DATE 11 OCTOBER 1964 EXPERIMENT NO. 28 TRACER RELEASE FROM 1105 TO 1205 CST

| TIME (C.S.T.) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT. | LOWEST LAYER TYPE & DIR. | LOWEST LAYER HEIGHT | SECOND LAYER AMT. | SECOND LAYER TYPE & DIR. | SECOND LAYER HEIGHT | OBSCURATION TOTAL | THIRD LAYER AMT. | THIRD LAYER TYPE & DIR. | THIRD LAYER HEIGHT | OBSCURATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND RESTRICTIONS TO VISION | SEA LEVEL PRESS. (mbs) | TEMP (°F) | DEW PT. (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0355 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 278 | 33 | 28 | | C | | |
| 0455 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 278 | 31 | 28 | | C | | |
| 0555 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 278 | 33 | 28 | | C | | |
| 0655 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 5 | KH | 280 | 30 | 28 | | C | | |
| 0755 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 5 | KH | 279 | 40 | 32 | ESE | 4 | | |
| 0855 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 279 | 47 | 30 | SSE | 12 | | |
| 0955 | 2 | 2 | Ci | / | 0 | | | 2 | 0 | | | 2 | 0 | 7 | | 271 | 52 | 30 | SE | 14 | | |
| 1055 | 2 | 2 | Ci | / | 0 | | | 2 | 0 | | | 2 | 0 | 10 | | 264 | 55 | 30 | SE | 12 | | |
| 1155 | 2 | 2 | Ci | / | 0 | | | 2 | 0 | | | 2 | 0 | 10 | | 250 | 57 | 30 | SE | 13 | | |
| 1255 | 2 | 2 | Ci | / | 0 | | | 2 | 0 | | | 2 | 0 | 15 | | 240 | 60 | 30 | SE | 10 | | |
| 1355 | 2 | 2 | Ci | / | 0 | | | 2 | 0 | | | 2 | 0 | 15 | | 230 | 61 | 28 | SE | 11 | | |
| 1455 | 5 | 5 | Ci | / | 0 | | | 5 | 0 | | | 5 | 2 | 15 | | 221 | 62 | 27 | SE | 10 | | |

DATE 12 OCTOBER 1964 EXPERIMENT NO. 29 TRACER RELEASE FROM 2000 TO 2100 CST

| TIME (C.S.T.) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT. | LOWEST LAYER TYPE & DIR. | LOWEST LAYER HEIGHT | SECOND LAYER AMT. | SECOND LAYER TYPE & DIR. | SECOND LAYER HEIGHT | OBSCURATION TOTAL | THIRD LAYER AMT. | THIRD LAYER TYPE & DIR. | THIRD LAYER HEIGHT | OBSCURATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND RESTRICTIONS TO VISION | SEA LEVEL PRESS. (mbs) | TEMP (°F) | DEW PT. (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1355 | 8 | 2 | Ac | 120 | 6 | Cs | / | 8 | 0 | | | 8 | 4 | 10 | | 198 | 69 | 42 | W | 9 | | |
| 1455 | 9 | 6 | Ac | E120 | 3 | Cs | / | 9 | 0 | | | 9 | 7 | 12 | | 198 | 68 | 41 | WNW | 8 | | |
| 1555 | 8 | 6 | Ac | E120 | 2 | Ci | / | 8 | 0 | | | 8 | 6 | 15 | | 198 | 66 | 43 | NW | 8 | | |
| 1655 | 9 | 2 | Ac | 120 | 7 | Ci | / | 9 | 0 | | | 9 | 4 | 15 | | 202 | 62 | 45 | NW | 8 | | |
| 1755 | 7 | 1 | Ac | 120 | 6 | Ci | / | 7 | 0 | | | 7 | 2 | 15 | | 206 | 57 | 46 | NW | 7 | | |
| 1855 | 8 | 6 | Ac | E90 | 2 | Ci | / | 8 | 0 | | | 8 | 6 | 15 | | 210 | 55 | 46 | NW | 4 | | |
| 1955 | 8 | 6 | Ac | E90 | 2 | Ci | / | 8 | 0 | | | 8 | 6 | 15 | | 213 | 56 | 47 | NW | 4 | | |
| 2055 | 6 | 3 | Ac | 90 | 3 | Ci | / | 6 | 0 | | | 6 | 3 | 15 | | 217 | 54 | 47 | NNE | 4 | | |
| 2155 | 6 | 3 | Ac | 90 | 3 | Ci | / | 6 | 0 | | | 6 | 3 | 15 | | 220 | 54 | 47 | | C | | |
| 2255 | 8 | 6 | Ac→ | M80 | 2 | Ci→ | / | 8 | 0 | | | 8 | 6 | 15 | | 219 | 53 | 46 | NNE | 3 | | |
| 2355 | 10 | 5 | Ac→ | 60 | 5 | Ac→ | M80 | 10 | u | | | | 10 | 15 | | 215 | 55 | 46 | ENE | 3 | | |
| | | | | | | | | | | | | | | | | | | | | | | |

# Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS

DATE 16 OCTOBER 1964 EXPERIMENT NO. 30 TRACER RELEASE FROM 2000 TO 2100 CST

| TIME (C.S.T.) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR. | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR. | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR. | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS. (mbs) | TEMP (°F) | DEW PT. (°F) | WIND DIRECTION | WIND SPEED (kts) | WIND CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1355 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 10 | | 109 | 78 | 43 | NNW | 6 | | WND VRBL |
| 1455 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 12 | | 108 | 79 | 42 | NW | 3 | | WND VRBL |
| 1555 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 12 | | 107 | 78 | 40 | | C | | |
| 1655 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 12 | | 108 | 74 | 40 | E | 3 | | |
| 1755 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 12 | | 112 | 71 | 42 | SSE | 3 | | WND VRBL |
| 1855 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 12 | | 114 | 59 | 46 | SSE | 3 | | |
| 1955 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 12 | | 110 | 56 | 49 | WNW | 3 | | |
| 2055 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 12 | | 111 | 57 | 46 | | C | | |
| 2155 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 12 | | 111 | 55 | 48 | | C | | |
| 2255 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 114 | 54 | 46 | | C | | |
| 2355 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 114 | 51 | 44 | | C | | |
| | | | | | | | | | | | | | | | | | | | | | | |

DATE 17 OCTOBER 1964 EXPERIMENT NO. 31 TRACER RELEASE FROM 1315 TO 1415 CST

| TIME (C.S.T.) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR. | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR. | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR. | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS. (mbs) | TEMP (°F) | DEW PT. (°F) | WIND DIRECTION | WIND SPEED (kts) | WIND CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0655 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 3 | GF K | 125 | 44 | 43 | SSE | 4 | | VSBY N 1½ |
| 0755 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 3 | GF K | 130 | 53 | 48 | ESE | 3 | | VSBY N 1½ |
| 0855 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 3 | K | 132 | 65 | 50 | SE | 6 | | |
| 0955 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 5 | K | 128 | 72 | 50 | SSW | 6 | | |
| 1055 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 125 | 78 | 49 | SE | 10 | | |
| 1155 | 0 | 0 | Ac | 120 | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 114 | 80 | 51 | SSE | 10 | | FEW AC N |
| 1255 | 1 | 1 | Ac | 120 | 0 | | | 1 | 0 | | | 1 | 1 | 7 | | 104 | 82 | 46 | SE | 10 | | |
| 1355 | 4 | 4 | Ci | / | 0 | | | 4 | 0 | | | 4 | 1 | 7 | | 090 | 83 | 45 | SSE | 7 | | |
| 1455 | 4 | 4 | Ci→ | / | 0 | | | 4 | 0 | | | 4 | 1 | 7 | | 090 | 84 | 45 | SSE | 11 | | |
| 1555 | 6 | 6 | Ci→ | / | 0 | | | 6 | 0 | | | 6 | 1 | 10 | | 083 | 82 | 47 | SSE | 12 | | |
| 1655 | 6 | 6 | Ci→ | / | 0 | | | 6 | 0 | | | 6 | 1 | 12 | | 084 | 77 | 47 | SE | 14 | | |
| 1755 | 9 | 9 | Ci→ | u | 0 | | | 9 | 0 | | | 9 | 6 | 10 | | 088 | 72 | 47 | SE | 8 | | |

# Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS

DATE 19 OCTOBER 1964 EXPERIMENT NO. 32 TRACER RELEASE FROM 1945 TO 2045 CST

| TIME (C.S.T.) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT. | LOWEST LAYER TYPE & DIR. | LOWEST LAYER HEIGHT | SECOND LAYER AMT. | SECOND LAYER TYPE & DIR. | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT. | THIRD LAYER TYPE & DIR. | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS. (mbs) | TEMP (°F) | DEW PT. (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND GUSTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1255 | 1 | 1 | Cu | 65 | 0 | | | 1 | 0 | | | 1 | 1 | 15 | | 225 | 55 | 22 | WNW | 18 | | |
| 1355 | 1 | 1 | Cu | 65 | 0 | | | 1 | 0 | | | 1 | 1 | 15 | | 218 | 56 | 21 | WNW | 18 | | |
| 1455 | 4 | 4 | Cu | 65 | 0 | | | 4 | 0 | | | 4 | 4 | 15 | | 213 | 56 | 20 | WNW | 14 | | |
| 1555 | 7 | 7 | Cu | R50 | 0 | | | 7 | 0 | | | 7 | 7 | 15 | | 213 | 56 | 20 | WNW | 13 | | ● 110-120 |
| 1655 | 8 | 3 | Sc | 50 | 3 | Ac | E80 | 6 | 2 | Cs | / | 8 | 7 | 15 | | 219 | 52 | 22 | NNW | 10 | | |
| 1755 | 10 | 7 | Sc | R50 | 3 | Ac | 80 | 10 | 4 | | | | 10 | 15 | | 227 | 48 | 29 | WNW | 15 | | RB 29 E 34 |
| 1855 | 10 | 10 | Sc | E50 | 4 | | | | 4 | | | | 10 | 15 | | 231 | 47 | 29 | NNW | 10 | | |
| 1955 | 10 | 10 | Sc | E50 | 4 | | | | 4 | | | | 10 | 15 | | 237 | 45 | 30 | WNW | 7 | | BINOVC |
| 2055 | 10 | 10 | Sc | E50 | 4 | | | | 4 | | | | 10 | 15 | | 237 | 45 | 30 | WNW | 6 | | BINOVC |
| 2155 | 3 | 3 | Sc | 50 | 0 | | | 3 | 0 | | | 3 | 3 | 15 | | 239 | 40 | 31 | NW | 9 | | |
| 2255 | 1 | 1 | Sc | 50 | 0 | | | 1 | 0 | | | 1 | 1 | 15 | | 243 | 36 | 32 | WNW | 6 | | |
| 2355 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 243 | 36 | 32 | WNW | 8 | | |

DATE 20 OCTOBER 1964 EXPERIMENT NO. 33 TRACER RELEASE FROM 1915 TO 2015 CST

| TIME (C.S.T.) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT. | LOWEST LAYER TYPE & DIR. | LOWEST LAYER HEIGHT | SECOND LAYER AMT. | SECOND LAYER TYPE & DIR. | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT. | THIRD LAYER TYPE & DIR. | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS. (mbs) | TEMP (°F) | DEW PT. (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND GUSTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1255 | 7 | 7 | Ac | E80 | 0 | | | 7 | 0 | | | 7 | 7 | 15 | | 206 | 51 | 24 | W | 10 | G16 | PRESFR |
| 1355 | 2 | 1 | Ac | 80 | 1 | Ci | / | 2 | 0 | | | 2 | 1 | 15 | | 195 | 55 | 23 | WSW | 12 | G18 | |
| 1455 | 1 | 1 | Ci | / | 0 | | | 1 | 0 | | | 1 | 0 | 15 | | 178 | 56 | 23 | SSW | 12 | | |
| 1555 | 1 | 1 | Ci | / | 0 | | | 1 | 0 | | | 1 | 0 | 15 | | 167 | 57 | 20 | SW | 14 | | |
| 1655 | 1 | 1 | Ci | / | 0 | | | 1 | 0 | | | 1 | 0 | 15 | | 161 | 56 | 20 | WSW | 12 | | |
| 1755 | 1 | 1 | Ci | / | 0 | | | 1 | 0 | | | 1 | 0 | 15 | | 161 | 53 | 20 | SSW | 7 | | |
| 1855 | 1 | 1 | Ci | / | 0 | | | 1 | 0 | | | 1 | 0 | 15 | | 157 | 51 | 22 | S | 10 | | |
| 1955 | 4 | 4 | Ci | / | 0 | | | 4 | 0 | | | 4 | 1 | 15 | | 150 | 53 | 20 | S | 11 | | |
| 2055 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 143 | 50 | 21 | SSW | 8 | | |
| 2155 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 135 | 51 | 21 | SSW | 8 | | |
| 2255 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 120 | 53 | 22 | WSW | 15 | G20 | |
| 2355 | 0 | 0 | Ci | / | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 110 | 54 | 24 | WSW | 12 | | FEW CI |

# Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS

DATE 21 OCTOBER 1964 EXPERIMENT NO. 34 TRACER RELEASE FROM 1920 TO 2020 CST

| TIME (C.S.T.) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR. | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR. | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR. | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS. (mbs) | TEMP (°F) | DEW PT. (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1255 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15+ | | 126 | 73 | 36 | NW | 15 | | |
| 1355 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15+ | | 124 | 74 | 33 | WNW | 18 | | |
| 1455 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15+ | | 135 | 73 | 30 | WNW | 12 | G 22 | |
| 1555 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15+ | | 135 | 72 | 27 | WNW | 14 | G 24 | |
| 1655 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15+ | | 143 | 66 | 30 | N | 14 | | |
| 1755 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15+ | | 158 | 60 | 28 | WNW | 11 | | |
| 1855 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 168 | 57 | 28 | N | 11 | | |
| 1955 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 178 | 53 | 29 | N | 5 | | |
| 2055 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 189 | 50 | 28 | N | 7 | | |
| 2155 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 198 | 47 | 27 | NNE | 7 | | |
| 2255 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 206 | 46 | 27 | NNE | 3 | | |
| 2355 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 15 | | 209 | 44 | 28 | N | 3 | | |

DATE 6 MARCH 1965 EXPERIMENT NO. 35 TRACER RELEASE FROM 1230 TO 1330 CST

| TIME (C.S.T.) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR. | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR. | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR. | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS. (mbs) | TEMP (°F) | DEW PT. (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0555 | 10 | 10 | Sc | M15 | U | | | | U | | | | 10 | 10 | | 081 | 32 | 28 | NW | 13 | | BINOVC |
| 0655 | 10 | 10 | Sc | M14 | U | | | | U | | | | 10 | 15 | | 085 | 32 | 27 | NW | 13 | | CIG RGD THN SPOTS INOVC |
| 0755 | 10 | 10 | Sc | A12 | U | | | | U | | | | 10 | 15 | | 098 | 32 | 27 | WNW | 16 | | ⊕ 32 |
| 0855 | 10 | 10 | Sc | M12 | U | | | | U | | | | 10 | 7 | | 101 | 33 | 26 | NW | 14 | | 4 NE STL 16 ⊕ |
| 0955 | 10 | 10 | Sc | M14 | U | | | | U | | | | 10 | 7 | | 105 | 32 | 26 | NW | 15 | | |
| 1055 | 10 | 10 | Sc | M13 | U | | | | U | | | | 10 | 7 | | 112 | 33 | 26 | NW | 11 | | |
| 1155 | 10 | 10 | Sc | M14 | U | | | | U | | | | 10 | 8 | | 112 | 33 | 26 | WNW | 16 | | |
| 1255 | 10 | 10 | Sc | M14 | U | | | | U | | | | 10 | 8 | | 112 | 33 | 26 | WNW | 16 | | |
| 1355 | 10 | 10 | Sc | M14 | U | | | | U | | | | 10 | 10 | | 115 | 33 | 26 | WNW | 12 | | |
| 1455 | 10 | 10 | Sc | M19 | U | | | | U | | | | 10 | 10 | | 117 | 33 | 26 | WNW | 12 | | |
| 1555 | 10 | 10 | Sc | M20 | U | | | | U | | | | 10 | 10 | | 120 | 33 | 26 | WNW | 11 | | |
| 1655 | 10 | 10 | Sc | M20 | U | | | | U | | | | 10 | 15 | | 124 | 33 | 26 | WNW | 13 | | |

# Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS

DATE 7 MARCH 1965 EXPERIMENT NO. 36 TRACER RELEASE FROM 1230 TO 1330 CST

| TIME (C.S.T.) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR. | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR. | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR. | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS. (mbs) | TEMP (°F) | DEW PT. (°F) | WIND DIRECTION | WIND SPEED (kts) | WIND CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0555 | 10 | 10 | S | W4 | u | | | | u | | | | 10 | 1 | S-F | 142 | 30 | 28 | NNW | 4 | | |
| 0655 | 10 | 10 | St | W4 | u | | | | u | | | | 10 | 1 | S-F | 146 | 30 | 27 | NNW | 7 | | |
| 0755 | 10 | 10 | S | W4 | u | | | | u | | | | 10 | 1 | S-F | 149 | 30 | 27 | NW | 7 | | |
| 0855 | 10 | 10 | St | M5 | u | | | | u | | | | 10 | 1 | S-F | 154 | 31 | 28 | NNW | 8 | | SUN DMLY VSBL |
| 0955 | 10 | 10 | St | M7 | u | | | | u | | | | 10 | 1½ | S-F | 154 | 32 | 28 | NW | 8 | | |
| 1055 | 10 | 7 | St | M9 | 3 | St | 12 | 10 | u | | | | 10 | 1½ | S-F | 157 | 33 | 29 | NNW | 9 | | |
| 1155 | 10 | 2 | st | 9 | 8 | St | M15 | 10 | u | | | | 10 | 4 | S--F | 157 | 34 | 28 | NNW | 11 | | |
| 1255 | 10 | 10 | St | M16 | u | | | | u | | | | 10 | 5 | S--F | 154 | 35 | 29 | NW | 7 | | |
| 1355 | 10 | 10 | St | M15 | u | | | | u | | | | 10 | 5 | S--F | 154 | 35 | 29 | NW | 11 | | |
| 1455 | 10 | 10 | St | M15 | u | | | | u | | | | 10 | 3 | S-F | 156 | 34 | 29 | NW | 10 | | |
| 1555 | 10 | 7 | St | M15 | 3 | Sc | 30 | 10 | u | | | | 10 | 4 | S-F | 160 | 34 | 29 | NW | 10 | | |
| 1655 | 10 | 10 | St | M17 | u | | | | u | | | | 10 | 10 | S-- | 164 | 34 | 28 | NW | 8 | | |

DATE 8 MARCH 1965 EXPERIMENT NO. 37 TRACER RELEASE FROM 2030 TO 2130 CST

| TIME (C.S.T.) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR. | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR. | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR. | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT. (°F) | WIND DIRECTION | WIND SPEED (kts) | WIND CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1355 | 6 | 6 | Ci | u | 0 | | | 6 | 0 | | | 6 | 4 | 15 | | 095 | 47 | 24 | S | 13 | | PRESFR |
| 1455 | 6 | 6 | Ci | u | 0 | | | 6 | 0 | | | 6 | 4 | 15 | | 092 | 49 | 23 | SW | 10 | | |
| 1555 | 10 | 2 | Sc | 30 | 6 | Ac | E70 | 8 | 2 | Ci | / | 10 | 10 | 15 | | 093 | 48 | 25 | W | 12 | | |
| 1655 | 10 | 8 | Ac | E70 | 2 | Ci | / | 10 | u | | | | 10 | 15 | | 096 | 46 | 26 | WNW | 18 | G25 | |
| 1755 | 10 | 8 | Sc | M50 | 2 | Ac | 80 | 10 | u | | | | 10 | 15 | | 115 | 40 | 28 | WNW | 18 | | |
| 1855 | 10 | 10 | Sc | M28 | u | | | | u | | | | 10 | 15 | | 124 | 37 | 29 | WNW | 12 | | R840 E45 |
| 1955 | 10 | 4 | Sc | 28 | 6 | Ac | M60 | 10 | u | | | | 10 | 15 | | 124 | 37 | 29 | WNW | 12 | | |
| 2055 | 10 | 10 | Sc | M60 | u | | | | u | | | | 10 | 15 | | 124 | 36 | 28 | WNW | 12 | | |
| 2155 | 4 | 2 | Sc | 30 | 2 | Ac | 60 | 4 | 0 | | | 4 | 4 | 15 | | 126 | 35 | 28 | WNW | 15 | | |
| 2255 | 2 | 2 | Sc | 60 | 0 | | | 2 | 0 | | | 2 | 2 | 15 | | 129 | 33 | 27 | WNW | 12 | | |
| 2355 | 2 | 2 | Sc | 60 | 0 | | | 2 | 0 | | | 2 | 2 | 15 | | 135 | 32 | 24 | WNW | 10 | | |

# Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS

DATE 11 MARCH 1965 EXPERIMENT NO. 38 TRACER RELEASE FROM 2030 TO 2130 CST

| TIME (C.S.T.) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR. | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR. | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR. | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS. (mbs) | TEMP (°F) | DEW PT. (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1355 | 10 | 10 | Ci | 4 | 4 | | | | 4 | | | | 10 | 8 | | 180 | 46 | 21 | S | 7 | | FEW AC |
| 1455 | 10 | 2 | Ac | 120 | 8 | Ci | / | 10 | 0 | | | 10 | 8 | 8 | | 176 | 46 | 20 | SW | 11 | | BINOVC |
| 1555 | 10 | 2 | Ac | 120 | 8 | Ci | / | 10 | 0 | | | 10 | 7 | 8 | | 171 | 49 | 20 | WSW | 9 | | |
| 1655 | 10 | 3 | Ac | 120 | 7 | Ci | / | 10 | 0 | | | 10 | 8 | 8 | | 173 | 47 | 20 | W | 10 | | BINOVC |
| 1755 | 5 | 4 | Ac | 120 | 1 | Ci | / | 5 | 0 | | | 5 | 4 | 8 | | 177 | 42 | 23 | W | 5 | | |
| 1855 | 5 | 4 | Ac | 120 | 1 | Ci | / | 5 | 0 | | | 5 | 4 | 10 | | 177 | 42 | 23 | WSW | 5 | | |
| 1955 | 8 | 6 | Ac | E120 | 2 | Ci | / | 8 | 0 | | | 8 | 6 | 10 | | 173 | 38 | 24 | W | 5 | | |
| 2055 | 10 | 10 | Sc | M60 | 4 | | | | 4 | | | | 10 | 10 | | 177 | 39 | 24 | WNW | 4 | | 70 ● 100 |
| 2155 | 10 | 10 | Sc | M55 | 4 | | | | 4 | | | | 10 | 10 | | 174 | 39 | 26 | NW | 4 | | |
| 2255 | 10 | 10 | Sc | M55 | 4 | | | | 4 | | | | 10 | 10 | | 178 | 39 | 24 | NW | 4 | | ⊕95 |
| 2355 | 10 | 10 | Sc | M55 | 4 | | | | 4 | | | | 10 | 10 | | 178 | 38 | 25 | NNW | 5 | | |
| | | | | | | | | | | | | | | | | | | | | | | |

DATE 13 MARCH 1965 EXPERIMENT NO. 39 TRACER RELEASE FROM 1220 TO 1320 CST

| TIME (C.S.T.) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR. | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR. | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR. | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS. (mbs) | TEMP (°F) | DEW PT. (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0555 | 6 | 6 | Ci | / | 0 | | | 6 | 0 | | | 6 | 2 | 3 | GF H K | 227 | 25 | 22 | | C | | |
| 0655 | 10 | 10 | Ci | / | 0 | | | 10 | 0 | | | 10 | 7 | 2 | GF H K | 227 | 26 | 24 | | C | | |
| 0755 | 10 | 10 | Ci | / | 0 | | | 10 | 0 | | | 10 | 5 | 2 | GF H K | 234 | 29 | 24 | W | 3 | | |
| 0855 | 10 | 10 | Ci | / | 0 | | | 10 | 0 | | | 10 | 4 | 3 | HK | 240 | 33 | 25 | | C | | |
| 0955 | 10 | 10 | Ci | / | 0 | | | 10 | 0 | | | 10 | 6 | 3 | HK | 239 | 37 | 23 | WSW | 4 | | |
| 1055 | 10 | 10 | Ci | / | 0 | | | 10 | 0 | | | 10 | 7 | 4 | HK | 239 | 41 | 24 | W | 4 | | |
| 1155 | 8 | 8 | Ci | / | 0 | | | 8 | 0 | | | 8 | 4 | 5 | HK | 232 | 41 | 24 | WNW | 7 | | |
| 1255 | 0 | 0 | Ci | / | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 218 | 45 | 23 | S | 5 | | FEW CI WND LGT AND VRBL |
| 1355 | 0 | 0 | Ci | / | 0 | | | 0 | 0 | | | 0 | 0 | 7 | | 204 | 47 | 22 | W | 4 | | FEW CI WND LGT AND VRBL |
| 1455 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 8 | | 194 | 48 | 19 | WSW | 7 | | |
| 1555 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 10 | | 189 | 49 | 16 | SW | 5 | | |
| 1655 | 0 | 0 | | | 0 | | | 0 | 0 | | | 0 | 0 | 10 | | 183 | 49 | 16 | S | 4 | | |

# Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS

DATE 14 MARCH 1965 EXPERIMENT NO. 40 TRACER RELEASE FROM 1100 TO 1200 CST

| TIME (C.S.T.) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR. | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR. | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR. | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS. (mbs) | TEMP (°F) | DEW PT. (°F) | WIND DIRECTION | WIND SPEED (kts) | WIND CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0455 | 10 | 10 | Sc | M28 | 4 | | | | 4 | | | | 10 | 7 | R- | 127 | 40 | 30 | NW | 15 | G22 | | FROPA |
| 0555 | 10 | 3 | Sf | 4 | 7 | Sf | M12 | 10 | 4 | | | | 10 | 2½ | R-- F | 133 | 34 | 32 | WNW | 6 | | | S800 E40 |
| 0655 | 10 | 3 | Sf | 4 | 3 | Sf | M7 | 6 | 4 | Sc | 25 | 10 | 10 | 4 | F | 148 | 34 | 32 | NW | 12 | | | RE 15 |
| 0755 | 10 | 4 | Sf | 13 | 6 | Sc | M20 | 10 | 4 | | | | 10 | 15 | | 155 | 34 | 30 | NW | 18 | | | |
| 0855 | 10 | 10 | Sc→ | M21 | 4 | | | | 4 | | | | 10 | 15 | | 166 | 34 | 28 | NW | 17 | | | |
| 0955 | 9 | 9 | Sc | M23 | 0 | | | 9 | 0 | | | 9 | 9 | 15 | | 166 | 39 | 29 | NW | 14 | | | |
| 1055 | 8 | 8 | Sc | M23 | 0 | | | 8 | 0 | | | 8 | 8 | 15 | | 167 | 41 | 29 | WNW | 14 | | | |
| 1155 | 8 | 8 | Sc→ | M24 | 0 | | | 8 | 0 | | | 8 | 8 | 15 | | 167 | 44 | 26 | NW | 20 | | | |
| 1255 | 8 | 8 | Sc | E25 | 0 | | | 8 | 0 | | | 8 | 8 | 15 | | 164 | 44 | 24 | WNW | 17 | | | |
| 1355 | 7 | 7 | Sc | A39 | 0 | | | 7 | 0 | | | 7 | 7 | 15 | | 160 | 48 | 24 | WNW | 16 | | | @ 54 |
| 1455 | 7 | 7 | Sc→ | M44 | 0 | | | 7 | 0 | | | 7 | 7 | 15 | | 160 | 49 | 25 | NW | 13 | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |

DATE 15 MARCH 1965 EXPERIMENT NO. 41 TRACER RELEASE FROM 2050 TO 2150 CST

| TIME (C.S.T.) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & DIR. | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & DIR. | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & DIR. | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS. (mbs) | TEMP (°F) | DEW PT. (°F) | WIND DIRECTION | WIND SPEED (kts) | WIND CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1355 | 3 | 3 | Ac | 80 | 0 | | | 3 | 0 | | | 3 | 3 | 15 | | 174 | 56 | 31 | WSW | 10 | | | |
| 1455 | 10 | 4 | Ac | 80 | 6 | Ci | / | 10 | 0 | | | 10 | 4 | 15 | | 174 | 60 | 38 | WNW | 13 | | | |
| 1555 | 8 | 4 | Ac | 80 | 4 | Ci | / | 8 | 0 | | | 8 | 8 | 15 | | 174 | 57 | 29 | WNW | 10 | | | |
| 1655 | 8 | 3 | Ac | 100 | 5 | Ci | / | 8 | 0 | | | 8 | 8 | 15 | | 178 | 57 | 29 | NW | 12 | | | |
| 1755 | 7 | 3 | Ac→ | 100 | 4 | Ci→ | / | 7 | 0 | | | 7 | 3 | 15 | | 185 | 51 | 28 | NW | 8 | | | |
| 1855 | 8 | 8 | Ci | / | 0 | | | 8 | 0 | | | 8 | 3 | 15 | | 190 | 47 | 23 | NW | 7 | | | |
| 1955 | 9 | 1 | Ac | 120 | 8 | Ci | / | 9 | 0 | | | 9 | 4 | 15 | | 192 | 47 | 27 | NW | 6 | | | |
| 2055 | 4 | 3 | Ac→ | 120 | 1 | Ci→ | / | 4 | 0 | | | 4 | 3 | 15 | | 192 | 45 | 26 | | C | | | |
| 2155 | 3 | 3 | Ac | 120 | 0 | | | 3 | 0 | | | 3 | 3 | 15 | | 196 | 40 | 26 | | C | | | |
| 2255 | 1 | 1 | Ac | 120 | 0 | | | 1 | 0 | | | 1 | 1 | 15 | | 196 | 34 | 27 | NNE | 4 | | | |
| 2355 | 3 | 3 | Ac | 120 | 0 | | | 3 | 0 | | | 3 | 3 | 15 | | 196 | 34 | 27 | NNE | 3 | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |

# Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS

DATE 16 MARCH 1965 EXPERIMENT NO. 42 TRACER RELEASE FROM 2030 TO 2130 CST

| TIME (CST) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & SHD | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & SHD | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & SHD | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT. (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1355 | 1 | 1 | Ci | / | 0 | | | 1 | 0 | | | 1 | 1 | 15 | | 140 | 66 | 36 | SE | 13 | | |
| 1455 | 8 | 8 | Ci | / | 0 | | | 8 | 0 | | | 8 | 2 | 15 | | 130 | 68 | 36 | SE | 15 | | |
| 1555 | 10 | 10 | Ci | / | 0 | | | 10 | 0 | | | 10 | 8 | 15 | | 118 | 66 | 33 | SE | 16 | G21 | |
| 1655 | 10 | 10 | Ci | / | 4 | | | | 4 | | | | 10 | 15 | | 103 | 64 | 33 | SE | 16 | G23 | |
| 1755 | 10 | 9 | Ac | B130 | 1 | Ci | / | 10 | 4 | | | | 10 | 15 | | 105 | 61 | 39 | ESE | 13 | G20 | |
| 1855 | 10 | 7 | Ac | M80 | 3 | Ac | 130 | 10 | 4 | | | | 10 | 15 | | 087 | 60 | 35 | ESE | 15 | | |
| 1955 | 10 | 7 | Ac | M70 | 3 | Ac | 100 | 10 | 4 | | | | 10 | 12 | RW-- | 076 | 59 | 31 | ESE | 13 | | R850 |
| 2055 | 10 | 8 | Sc | M50 | 2 | Ac | 80 | 10 | 4 | | | | 10 | 10 | RW- | 054 | 55 | 42 | ESE | 16 | G20 | PRESFR OCNC LTGIC NW |
| 2155 | 10 | 8 | Sc | M36 | 2 | Sc | 50 | 10 | 4 | | | | 10 | 10 | RW-- | 043 | 54 | 43 | ESE | 15 | | |
| 2255 | 10 | 4 | Sc | 36 | 6 | Ac | M80 | 10 | 4 | | | | 10 | 10 | | 018 | 56 | 43 | SE | 16 | G26 | PRESFR RE40 |
| 2355 | 10 | 4 | Sc | 40 | 6 | Ac | M70 | 10 | 4 | | | | 10 | 10 | | 006 | 57 | 44 | SSE | 17 | G28 | |
| | | | | | | | | | | | | | | | | | | | | | | |

DATE 17 MARCH 1965 EXPERIMENT NO 43 TRACER RELEASE FROM 2000 TO 2100 CST

| TIME (CST) | TOTAL SKY COVER | CLOUDS AND OBSCURING PHENOMENA: LOWEST LAYER AMT | LOWEST LAYER TYPE & SHD | LOWEST LAYER HEIGHT | SECOND LAYER AMT | SECOND LAYER TYPE & SHD | SECOND LAYER HEIGHT | SUMMATION TOTAL | THIRD LAYER AMT | THIRD LAYER TYPE & SHD | THIRD LAYER HEIGHT | SUMMATION TOTAL | TOTAL OPAQUE SKY COVER | SURFACE VISIBILITY (miles) | WEATHER AND OBSTRUCTIONS TO VISION | SEA LEVEL PRESS (mbs) | TEMP (°F) | DEW PT. (°F) | WIND: DIRECTION | WIND: SPEED (kts) | WIND: CHARACTER AND SHIFTS | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1355 | 10 | 10 | Sc | M23 | 4 | | | | 4 | | | | 10 | 10 | | 993 | 44 | 33 | W | 24 | G38 | |
| 1455 | 10 | 10 | Sc | M26 | 4 | | | | 4 | | | | 10 | 10 | | 015 | 42 | 31 | WNW | 22 | G34 | PRESRR |
| 1555 | 10 | 10 | Sc | M26 | 4 | | | | 4 | | | | 10 | 10 | | 021 | 42 | 30 | WNW | 24 | G36 | @40 CLR ABV |
| 1655 | 10 | 10 | Sc | M27 | 4 | | | | 4 | | | | 10 | 10 | | 039 | 39 | 28 | WNW | 18 | G35 | |
| 1755 | 10 | 10 | Sc | M28 | 4 | | | | 4 | | | | 10 | 15 | | 067 | 37 | 25 | WNW | 22 | G40 | PRESRR |
| 1855 | 10 | 10 | Sc | M27 | 4 | | | | 4 | | | | 10 | 15 | | 080 | 34 | 22 | W | 24 | G43 | |
| 1955 | 8 | 8 | Sc | M28 | 0 | | | 8 | 0 | | | 8 | 8 | 15 | | 098 | 32 | 20 | WNW | 22 | G37 | |
| 2055 | 8 | 8 | Sc | M30 | 0 | | | 8 | 0 | | | 8 | 8 | 15 | | 113 | 29 | 18 | WNW | 21 | G36 | |
| 2155 | 5 | 5 | Sc | 30 | 0 | | | 5 | 0 | | | 5 | 5 | 15 | | 126 | 28 | 17 | WNW | 20 | G34 | |
| 2255 | 7 | 7 | Sc | M28 | 0 | | | 7 | 0 | | | 7 | 7 | 15 | | 133 | 26 | 16 | W | 15 | G25 | |
| 2355 | 6 | 6 | Sc | M28 | 0 | | | 6 | 0 | | | 6 | 4 | 15 | | 140 | 25 | 15 | WNW | 17 | G22 | |
| | | | | | | | | | | | | | | | | | | | | | | |

## METEOROLOGICAL MEASUREMENTS AT OUTLYING STATIONS

Data on surface-wind velocity, temperature, and relative humidity are given in Tables 14 through 16 for the outlying meteorological stations in St. Louis. The nominal period of record is from 1 hour before the beginning of each tracer release to 1-1/2 hours after each ending for the daytime experiments, and to 2 hours after each ending for the evening experiments. Data collected at Missouri State Police Station C, Lindbergh High School, and Hazelwood High School are listed respectively in Tables 14, 15, and 16.

Each table presents 10-minute averages of surface wind direction and speed; the first, third, and fifth largest ranges of wind direction and speed over each 30-minute interval; and hourly averages of temperature and relative humidity. Times (in CST) specify the termination of the sampling intervals. Wind direction ranges less than 4 degrees and wind speed ranges less than 2 miles per hour are not listed, since these values approach the accuracies of the respective estimations.

BLANK PAGE

TABLE 14. METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

Symbols

D(deg): Surface wind direction in whole degrees of azimuth

S(mph): Surface wind speed in whole miles per hour

Direction Range 1, 3, and 5: The first, third, and fifth highest wind direction ranges in whole degrees of azimuth

Speed Range 1, 3, and 5: The first, third, and fifth highest wind speed ranges in whole miles per hour

T(°F) : Temperature in whole degrees Fahrenheit

RH(%) : Relative humidity in whole percent

C : Calm - Wind speed less than threshold speed of the instrument

- : Missing Data; for wind direction ranges, data either missing or undefined.

Preceding page blank

# Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

27 May 1963 — Experiment No. 2 — Tracer Release From: 1410 to 1440

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 13:30 | 300 | 15 | | | | | | | | |
| 40 | 308 | 12 | | | | | | | | |
| 50 | 310 | 15 | | | | | | | | |
| 14:00 | 300 | 13 | 126 | 88 | 72 | 14 | 11 | 10 | 77 | 64 |
| 10 | 315 | 14 | | | | | | | | |
| 20 | 320 | 14 | | | | | | | | |
| 30 | 308 | 12 | 100 | 72 | 70 | 16 | 12 | 12 | | |
| 40 | 305 | 10 | | | | | | | | |
| 50 | 302 | 14 | | | | | | | | |
| 15:00 | 305 | 11 | 125 | 98 | 75 | 20 | 14 | 12 | 77 | 64 |
| 10 | 298 | 12 | | | | | | | | |
| 20 | 298 | 10 | | | | | | | | |
| 30 | 300 | 8 | 108 | 75 | 71 | 14 | 10 | 10 | | |
| 40 | 308 | 14 | | | | | | | | |
| 50 | 290 | 10 | | | | | | | | |
| 16:00 | 298 | 8 | 110 | 85 | 70 | 18 | 12 | 10 | 76 | 66 |

28 May 1963 — Experiment No. 3 — Tracer Release from 1000 to 1100 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 9:30 | 298 | 13 | | | | | | | | |
| 40 | 300 | 14 | | | | | | | | |
| 50 | 295 | 14 | | | | | | | | |
| 10:00 | 308 | 14 | 88 | 80 | 63 | 15 | 14 | 10 | 69 | 70 |
| 10 | 304 | 15 | | | | | | | | |
| 20 | 302 | 14 | | | | | | | | |
| 30 | 298 | 14 | 95 | 80 | 58 | 15 | 13 | 11 | | |
| 40 | 308 | 14 | | | | | | | | |
| 50 | 292 | 12 | | | | | | | | |
| 11:00 | 294 | 12 | 178 | 115 | 90 | 21 | 15 | 13 | 72 | 66 |
| 10 | 280 | 11 | | | | | | | | |
| 20 | 293 | 13 | | | | | | | | |
| 30 | 288 | 12 | 142 | 96 | 82 | 19 | 14 | 12 | | |
| 40 | 296 | 11 | | | | | | | | |
| 50 | 296 | 12 | | | | | | | | |
| 12:00 | 302 | 13 | 128 | 103 | 82 | 17 | 15 | 11 | 72 | 67 |

19 July 1963 — Experiment No. 4 — Tracer Release from 1130 to 1230 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 240 | 13 | | | | | | | 89 | 57 |
| 10 | 222 | 15 | | | | | | | | |
| 20 | 236 | 12 | | | | | | | | |
| 30 | 238 | 13 | 108 | 10 | 86 | 16 | 14 | 12 | | |
| 40 | 250 | 12 | | | | | | | | |
| 50 | 235 | 13 | | | | | | | | |
| 12:00 | 232 | 13 | 132 | 120 | 103 | 18 | 15 | 13 | 91 | 54 |
| 10 | 242 | 14 | | | | | | | | |
| 20 | 242 | 15 | | | | | | | | |
| 30 | 238 | 15 | 110 | 85 | 73 | 18 | 15 | 12 | | |
| 40 | 230 | 15 | | | | | | | | |
| 50 | 240 | 16 | | | | | | | | |
| 13:00 | 230 | 15 | 100 | 90 | 75 | 21 | 15 | 13 | 93 | 50 |
| 10 | 232 | 15 | | | | | | | | |
| 20 | 242 | 14 | | | | | | | | |
| 30 | 230 | 16 | 110 | 90 | 78 | 18 | 15 | 12 | | |
| 14:00 | | | | | | | | | 94 | 47 |

22 July 1963 — Experiment No. 5 — Tracer Release from 1104 to 1204 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:30 | 218 | 10 | | | | | | | | |
| 40 | 208 | 9 | | | | | | | | |
| 50 | 218 | 11 | | | | | | | | |
| 11:00 | 212 | 11 | 100 | 82 | 70 | 14 | 10 | 9 | 85 | 53 |
| 10 | 196 | 11 | | | | | | | | |
| 20 | 200 | 12 | | | | | | | | |
| 30 | 192 | 11 | 92 | 60 | 52 | 11 | 8 | 7 | | |
| 40 | 182 | 10 | | | | | | | | |
| 50 | 203 | 12 | | | | | | | | |
| 12:00 | 195 | 11 | 103 | 75 | 62 | 14 | 10 | 9 | 86 | 50 |
| 10 | 203 | 10 | | | | | | | | |
| 20 | 193 | 12 | | | | | | | | |
| 30 | 208 | 10 | 100 | 88 | 80 | 14 | 9 | 6 | | |
| 40 | 220 | 15 | | | | | | | | |
| 50 | 208 | 10 | | | | | | | | |
| 13:00 | 215 | 8 | 120 | 94 | 80 | 15 | 10 | 8 | 87 | 52 |

# Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

23 July 1963 — Experiment No. 6 — Tracer Release from 1130 to 1230 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 140 | 10 | | | | | | | 85 | 59 |
| 10 | 158 | 12 | | | | | | | | |
| 20 | 158 | 10 | | | | | | | | |
| 30 | 155 | 10 | 102 | 88 | 75 | 12 | 10 | 8 | | |
| 40 | 152 | 10 | | | | | | | | |
| 50 | 156 | 9 | | | | | | | | |
| 12:00 | 158 | 9 | 105 | 85 | 73 | 10 | 8 | 6 | 86 | 56 |
| 10 | 160 | 10 | | | | | | | | |
| 20 | 130 | 7 | | | | | | | | |
| 30 | 132 | 10 | 138 | 118 | 82 | 13 | 8 | 6 | | |
| 40 | 130 | 8 | | | | | | | | |
| 50 | 133 | 9 | | | | | | | | |
| 13:00 | 143 | 9 | 123 | 100 | 83 | 12 | 8 | 6 | 87 | 54 |
| 10 | 136 | 8 | | | | | | | | |
| 20 | 125 | 8 | | | | | | | | |
| 30 | 122 | 8 | 128 | 94 | 80 | 10 | 8 | 6 | | |
| 14:00 | | | | | | | | | 88 | 51 |

25 July 1963 — Experiment No. 7 — Tracer Release from 1040 to 1140 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:10 | 150 | 11 | | | | | | | | |
| 20 | 150 | 13 | | | | | | | | |
| 30 | 155 | 13 | | | | | | | | |
| 40 | 168 | 13 | 102 | 88 | 72 | 15 | 12 | 10 | | |
| 50 | 172 | 14 | | | | | | | | |
| 11:00 | 170 | 16 | | | | | | | 83 | 55 |
| 10 | 175 | 15 | 82 | 72 | 62 | 14 | 11 | 10 | | |
| 20 | 165 | 15 | | | | | | | | |
| 30 | 155 | 13 | | | | | | | | |
| 40 | 165 | 12 | 130 | 100 | 76 | 16 | 13 | 11 | | |
| 50 | 158 | 14 | | | | | | | | |
| 12:00 | 178 | 13 | | | | | | | 85 | 52 |
| 10 | 183 | 14 | 142 | 122 | 85 | 14 | 11 | 9 | | |
| 20 | 168 | 12 | | | | | | | | |
| 30 | 160 | 12 | | | | | | | | |
| 40 | 163 | 11 | 173 | 125 | 96 | 14 | 12 | 10 | | |
| 13:00 | | | | | | | | | 85 | 49 |

26 July 1963 — Experiment No. 8 — Tracer Release from 1045 to 1145 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:10 | 165 | 13 | | | | | | | | |
| 20 | 160 | 14 | | | | | | | | |
| 30 | 170 | 15 | | | | | | | | |
| 40 | 176 | 15 | 115 | 98 | 74 | 17 | 13 | 10 | | |
| 50 | 168 | 16 | | | | | | | | |
| 11:00 | 175 | 17 | | | | | | | 79 | 70 |
| 10 | 184 | 17 | 98 | 76 | 68 | 15 | 12 | 10 | | |
| 20 | 182 | 16 | | | | | | | | |
| 30 | 158 | 14 | | | | | | | | |
| 40 | 158 | 14 | 110 | 88 | 74 | 14 | 12 | 10 | | |
| 50 | 165 | 14 | | | | | | | | |
| 12:00 | 180 | 15 | | | | | | | 80 | 66 |
| 10 | 180 | 15 | 105 | 90 | 63 | 18 | 13 | 10 | | |
| 20 | 180 | 15 | | | | | | | | |
| 30 | 180 | 16 | | | | | | | | |
| 40 | 180 | 14 | 63 | 60 | 52 | 14 | 12 | 10 | | |
| 13:00 | | | | | | | | | 82 | 56 |

12 September 1963 — Experiment No. 9 — Tracer Release from 1115 to 1215 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:50 | 332 | 10 | | | | | | | | |
| 11:00 | 330 | 12 | | | | | | | 85 | 58 |
| 10 | 334 | 12 | | | | | | | | |
| 20 | 338 | 12 | 122 | 120 | 65 | 12 | 8 | 6 | | |
| 30 | 008 | 11 | | | | | | | | |
| 40 | 342 | 14 | | | | | | | | |
| 50 | 342 | 11 | 143 | 92 | 73 | 14 | 9 | 6 | | |
| 12:00 | 345 | 12 | | | | | | | 86 | 57 |
| 10 | 330 | 12 | | | | | | | | |
| 20 | 340 | 13 | 109 | 80 | 68 | 13 | 12 | 12 | | |
| 30 | 322 | 11 | | | | | | | | |
| 40 | 338 | 12 | | | | | | | | |
| 50 | 348 | 10 | 130 | 98 | 76 | 12 | 11 | 10 | | |
| 13:00 | 355 | 10 | | | | | | | 85 | 58 |
| 10 | 338 | 10 | | | | | | | | |
| 20 | 330 | 13 | 142 | 100 | 76 | 14 | 9 | 7 | | |

# Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

14 September 1963 Experiment No. 10 Tracer Release from 1045 to 1145 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:20 | 060 | 5 | | | | | | | | |
| 30 | 080 | 5 | | | | | | | | |
| 40 | 085 | 6 | | | | | | | | |
| 50 | 085 | 5 | 200 | 122 | 100 | 10 | 8 | 6 | | |
| 11:00 | 074 | 7 | | | | | | | 71 | 47 |
| 10 | 062 | 7 | | | | | | | | |
| 20 | 085 | 7 | 176 | 133 | 108 | 12 | 8 | 6 | | |
| 30 | 070 | 7 | | | | | | | | |
| 40 | 072 | 8 | | | | | | | | |
| 50 | 085 | 7 | 142 | 88 | 75 | 11 | 9 | 6 | | |
| 12:00 | 112 | 8 | | | | | | | 73 | 44 |
| 10 | 098 | 9 | | | | | | | | |
| 20 | 120 | 8 | 128 | 115 | 92 | 13 | 9 | 8 | | |
| 30 | 105 | 9 | | | | | | | | |
| 40 | 132 | 8 | | | | | | | | |
| 50 | 110 | 9 | 118 | 100 | 80 | 15 | 12 | 9 | | |
| 13:00 | | | | | | | | | 74 | 43 |

16 September 1963 Experiment No. 11 Tracer Release from 1100 to 1200 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:30 | 162 | 14 | | | | | | | | |
| 40 | 160 | 12 | | | | | | | | |
| 50 | 170 | 14 | | | | | | | | |
| 11:00 | 172 | 14 | 122 | 113 | 93 | 16 | 14 | 12 | 78 | 50 |
| 10 | 178 | 14 | | | | | | | | |
| 20 | 178 | 14 | | | | | | | | |
| 30 | 183 | 15 | 105 | 90 | 72 | 18 | 14 | 10 | | |
| 40 | 170 | 13 | | | | | | | | |
| 50 | 175 | 14 | | | | | | | | |
| 12:00 | 178 | 12 | 105 | 86 | 70 | 17 | 12 | 10 | 81 | 45 |
| 10 | 165 | 12 | | | | | | | | |
| 20 | 180 | 13 | | | | | | | | |
| 30 | 160 | 10 | 150 | 120 | 78 | 14 | 12 | 10 | | |
| 40 | 173 | 12 | | | | | | | | |
| 50 | 158 | 12 | | | | | | | | |
| 13:00 | 145 | 12 | 156 | 118 | 90 | 17 | 12 | 9 | 83 | 42 |

17 September 1963 Experiment No. 12 Tracer Release from 2000 to 2030 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 19:30 | 166 | 7 | | | | | | | | |
| 40 | 160 | 7 | | | | | | | | |
| 50 | 160 | 8 | | | | | | | | |
| 20:00 | 152 | 8 | 25 | - | - | <2 | <2 | <2 | 70 | 73 |
| 10 | 150 | 9 | | | | | | | | |
| 20 | 150 | 10 | | | | | | | | |
| 30 | 156 | 9 | 30 | 20 | 20 | 4 | <2 | <2 | | |
| 40 | 160 | 8 | | | | | | | | |
| 50 | 169 | 8 | | | | | | | | |
| 21:00 | 162 | 8 | 22 | 20 | 16 | <2 | <2 | <2 | 68 | 78 |
| 10 | 160 | 8 | | | | | | | | |
| 20 | 167 | 8 | | | | | | | | |
| 30 | 170 | 9 | 28 | 20 | 20 | <2 | <2 | <2 | | |
| 40 | 180 | 9 | | | | | | | | |
| 50 | 180 | 9 | | | | | | | | |
| 22:00 | 182 | 7 | 32 | 30 | 28 | 5 | <2 | <2 | 65 | 82 |
| 10 | 192 | 6 | | | | | | | | |
| 20 | 198 | 6 | | | | | | | | |
| 30 | 193 | 6 | 10 | - | - | 5 | <2 | <2 | | |
| 23:00 | | | | | | | | | 63 | 88 |

# Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

18 September 1963 Experiment No. 13 Tracer Release from 2000 to 2100 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 19:30 | 90 | 8 | | | | | | | | |
| 40 | 90 | 9 | | | | | | | | |
| 50 | 90 | 9 | | | | | | | | |
| 20:00 | 90 | 9 | <4 | <4 | <4 | <2 | <2 | <2 | 56 | 99 |
| 10 | 90 | 9 | | | | | | | | |
| 20 | 90 | 9 | | | | | | | | |
| 30 | 85 | 9 | 10 | - | - | <2 | <2 | <2 | | |
| 40 | 100 | 7 | | | | | | | | |
| 50 | 105 | 6 | | | | | | | | |
| 21:00 | 115 | 7 | 25 | - | - | <2 | <2 | <2 | 57 | 99 |
| 10 | 123 | 7 | | | | | | | | |
| 20 | 130 | 6 | | | | | | | | |
| 30 | 134 | 6 | 25 | - | - | <2 | <2 | <2 | | |
| 40 | 138 | 7 | | | | | | | | |
| 50 | 140 | 7 | | | | | | | | |
| 22:00 | 140 | 7 | <4 | <4 | <4 | <2 | <2 | <2 | 58 | 99 |
| 10 | 190 | 6 | | | | | | | | |
| 20 | 220 | 12 | | | | | | | | |
| 30 | 220 | 12 | 50 | 30 | 30 | <2 | <2 | <2 | | |
| 40 | 220 | 10 | | | | | | | | |
| 50 | 210 | 8 | | | | | | | | |
| 23:00 | 215 | 8 | 45 | 30 | 30 | <2 | <2 | <2 | 58 | 99 |

1 April 1964 Experiment No. 14 Tracer Release from 1200 to 1300 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11:30 | 155 | 16 | | | | | | | | |
| 40 | 155 | 20 | | | | | | | | |
| 50 | 165 | 18 | | | | | | | | |
| 12:00 | 155 | 18 | 98 | 79 | 68 | 21 | 18 | 15 | 49 | 42 |
| 10 | 155 | 18 | | | | | | | | |
| 20 | 158 | 21 | | | | | | | | |
| 30 | 148 | 21 | 88 | 72 | 60 | 24 | 19 | 15 | | |
| 40 | 155 | 22 | | | | | | | | |
| 50 | 152 | 19 | | | | | | | | |
| 13:00 | 165 | 22 | 98 | 80 | 70 | 28 | 20 | 14 | 52 | 38 |
| 10 | 152 | 20 | | | | | | | | |
| 20 | 165 | 17 | | | | | | | | |
| 30 | 165 | 17 | 105 | 82 | 72 | 25 | 20 | 15 | | |
| 40 | 165 | 19 | | | | | | | | |
| 50 | 168 | 17 | | | | | | | | |
| 14:00 | 160 | 18 | 100 | 73 | 55 | 19 | 14 | 11 | 54 | 38 |

6 April 1964 Experiment No. 15 Tracer Release from 2040 to 2140 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:10 | 205 | 11 | | | | | | | | |
| 20 | 203 | 8 | | | | | | | | |
| 30 | 260 | 9 | | | | | | | | |
| 40 | 235 | 12 | 152 | 122 | 100 | 18 | 14 | 12 | | |
| 50 | 255 | 20 | | | | | | | | |
| 21:00 | 258 | 17 | | | | | | | 66 | 36 |
| 10 | 250 | 17 | 162 | 122 | 108 | 32 | 23 | 18 | | |
| 20 | 230 | 16 | | | | | | | | |
| 30 | 242 | 14 | | | | | | | | |
| 40 | 258 | 19 | 110 | 90 | 75 | 17 | 13 | 11 | | |
| 50 | 276 | 12 | | | | | | | | |
| 22:00 | 270 | 11 | | | | | | | 65 | 39 |
| 10 | 276 | 12 | 120 | 90 | 75 | 14 | 11 | 10 | | |
| 20 | 275 | 10 | | | | | | | | |
| 30 | 270 | 10 | | | | | | | | |
| 40 | 267 | 9 | 120 | 72 | 63 | 10 | 10 | 9 | | |
| 50 | 242 | 9 | | | | | | | | |
| 23:00 | 232 | 9 | | | | | | | 63 | 42 |
| 10 | 232 | 7 | 58 | 48 | 32 | 6 | 5 | 3 | | |
| 20 | 245 | 6 | | | | | | | | |
| 30 | 280 | 5 | | | | | | | | |
| 40 | 242 | 5 | 150 | 118 | 85 | 6 | 5 | 3 | | |
| [illegible] | | | | | | | | | 60 | 43 |

## Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

7 April 1964 — Experiment No. 16 — Tracer Release from 2048 to 2148 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:20 | 320 | 12 | | | | | | | | |
| 30 | 325 | 16 | | | | | | | | |
| 40 | 322 | 16 | | | | | | | | |
| 50 | 328 | 19 | 80 | 68 | 52 | 18 | 15 | 12 | | |
| 21:00 | 332 | 20 | | | | | | | 41 | 58 |
| 10 | 330 | 18 | | | | | | | | |
| 20 | 322 | 16 | 76 | 62 | 55 | 18 | 15 | 14 | | |
| 30 | 330 | 18 | | | | | | | | |
| 40 | 328 | 17 | | | | | | | | |
| 50 | 330 | 15 | 65 | 60 | 48 | 16 | 14 | 13 | | |
| 22:00 | 333 | 17 | | | | | | | 40 | 58 |
| 10 | 335 | 19 | | | | | | | | |
| 20 | 333 | 19 | 101 | 73 | 57 | 18 | 15 | 14 | | |
| 30 | 336 | 16 | | | | | | | | |
| 40 | 342 | 18 | | | | | | | | |
| 50 | 334 | 22 | 78 | 65 | 55 | 24 | 21 | 16 | | |
| 23:00 | 335 | 24 | | | | | | | 39 | 60 |
| 10 | 336 | 18 | | | | | | | | |
| 20 | 338 | 17 | 82 | 68 | 42 | 26 | 22 | 17 | | |
| 30 | 342 | 18 | | | | | | | | |
| 40 | 335 | 19 | | | | | | | | |
| 50 | 328 | 18 | 102 | 68 | 55 | 20 | 17 | 15 | | |
| 24:00 | 330 | 22 | | | | | | | 37 | 60 |

8 April 1964 — Experiment No. 17 — Tracer Release from 2030 to 2130 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:00 | 262 | 11 | | | | | | | 35 | 63 |
| 10 | 265 | 11 | | | | | | | | |
| 20 | 265 | 10 | | | | | | | | |
| 30 | 262 | 10 | 93 | 72 | 63 | 9 | 8 | 6 | | |
| 40 | 266 | 9 | | | | | | | | |
| 50 | 265 | 11 | | | | | | | | |
| 21:00 | 265 | 11 | 90 | 72 | 60 | 10 | 8 | 6 | 35 | 64 |
| 10 | 268 | 11 | | | | | | | | |
| 20 | 265 | 9 | | | | | | | | |
| 30 | 260 | 9 | 100 | 80 | 68 | 9 | 7 | 6 | | |
| 40 | 268 | 8 | | | | | | | | |
| 50 | 270 | 8 | | | | | | | | |
| 22:00 | 266 | 9 | 100 | 80 | 72 | 9 | 6 | 5 | 34 | 66 |
| 10 | 270 | 10 | | | | | | | | |
| 20 | 270 | 8 | | | | | | | | |
| 30 | 278 | 6 | 102 | 85 | 50 | 11 | 8 | 6 | | |
| 40 | 272 | 6 | | | | | | | | |
| 50 | 268 | 7 | | | | | | | | |
| 23:00 | 272 | 7 | 97 | 78 | 64 | 7 | 5 | 4 | 33 | 68 |
| 10 | 278 | 8 | | | | | | | | |
| 20 | 270 | 8 | | | | | | | | |
| 30 | 275 | 7 | 62 | 48 | 36 | 5 | 4 | 3 | | |
| 24:00 | | | | | | | | | 31 | 75 |

## Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

9 April 1964 — Experiment No. 18 — Tracer Release from 2045 to 2145 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:20 | 222 | 10 | | | | | | | | |
| 30 | 220 | 10 | | | | | | | | |
| 40 | 224 | 10 | | | | | | | | |
| 50 | 223 | 10 | 42 | 25 | 20 | 4 | 3 | 2 | | |
| 21:00 | 222 | 10 | | | | | | | 51 | 29 |
| 10 | 228 | 11 | | | | | | | | |
| 20 | 229 | 10 | 42 | 30 | 25 | 4 | 3 | 2 | | |
| 30 | 222 | 9 | | | | | | | | |
| 40 | 222 | 10 | | | | | | | | |
| 50 | 220 | 11 | 38 | 22 | 20 | 5 | 3 | 2 | | |
| 22:00 | 220 | 10 | | | | | | | 50 | 30 |
| 10 | 212 | 11 | | | | | | | | |
| 20 | 218 | 12 | 58 | 38 | 30 | 7 | 5 | 2 | | |
| 30 | 218 | 12 | | | | | | | | |
| 40 | 218 | 12 | | | | | | | | |
| 50 | 218 | 12 | 58 | 40 | 30 | 7 | 5 | 4 | | |
| 23:00 | 218 | 10 | | | | | | | 50 | 30 |
| 10 | 220 | 13 | | | | | | | | |
| 20 | 223 | 14 | 68 | 58 | 40 | 12 | 9 | 8 | | |
| 30 | 224 | 15 | | | | | | | | |
| 40 | 224 | 13 | | | | | | | | |
| 50 | 222 | 14 | 50 | 39 | 27 | 8 | 6 | 5 | | |
| 24:00 | 220 | 13 | | | | | | | 48 | 32 |

2 June 1964 — Experiment No. 19 — Tracer Release from 1030 to 1130 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:00 | 325 | 11 | | | | | | | 68 | 44 |
| 10 | 322 | 12 | | | | | | | | |
| 20 | 310 | 9 | | | | | | | | |
| 30 | 325 | 11 | 130 | 103 | 88 | 14 | 10 | 9 | | |
| 40 | 305 | 13 | | | | | | | | |
| 50 | 320 | 12 | | | | | | | | |
| 11:00 | 312 | 11 | 122 | 95 | 75 | 15 | 12 | 8 | 70 | 40 |
| 10 | 342 | 12 | | | | | | | | |
| 20 | 322 | 12 | | | | | | | | |
| 30 | 320 | 10 | 125 | 100 | 82 | 15 | 12 | 9 | | |
| 40 | 320 | 12 | | | | | | | | |
| 50 | 320 | 11 | | | | | | | | |
| 12:00 | 330 | 16 | 138 | 112 | 88 | 21 | 17 | 14 | 71 | 39 |
| 10 | 328 | 10 | | | | | | | | |
| 20 | 305 | 11 | | | | | | | | |
| 30 | 328 | 12 | 170 | 136 | 112 | 17 | 14 | 10 | | |
| 13:00 | | | | | | | | | 71 | 39 |

3 June 1964 — Experiment No. 20 — Tracer Release from 1040 to 1140 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:20 | 342 | 8 | | | | | | | | |
| 30 | 304 | 7 | | | | | | | | |
| 40 | 272 | 7 | | | | | | | | |
| 50 | 302 | 8 | 234 | 180 | 146 | 13 | 10 | 8 | | |
| 11:00 | 297 | 8 | | | | | | | 69 | 40 |
| 10 | 295 | 6 | | | | | | | | |
| 20 | 284 | 6 | 178 | 138 | 112 | 13 | 12 | 10 | | |
| 30 | 272 | 5 | | | | | | | | |
| 40 | 304 | 7 | | | | | | | | |
| 50 | 302 | 6 | 240 | 190 | 152 | 14 | 10 | 7 | | |
| 12:00 | 323 | 5 | | | | | | | 71 | 37 |
| 10 | 285 | 6 | | | | | | | | |
| 20 | 290 | 8 | 238 | 207 | 162 | 13 | 10 | 8 | | |
| 30 | 262 | 6 | | | | | | | | |
| 40 | 243 | 7 | | | | | | | | |
| 50 | 265 | 7 | 253 | 158 | 128 | 12 | 9 | 7 | | |
| 13:00 | | | | | | | | | 72 | 34 |

# Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

4 June 1964 — Experiment No. 21 — Tracer Release from 1030 to 1130 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:00 | 190 | 7 | | | | | | | 69 | 50 |
| 10 | 188 | 7 | | | | | | | | |
| 20 | 183 | 8 | | | | | | | | |
| 30 | 188 | 8 | 61 | 46 | 37 | 6 | 5 | 5 | | |
| 40 | 180 | 7 | | | | | | | | |
| 50 | 180 | 7 | | | | | | | | |
| 11:00 | 176 | 8 | 91 | 78 | 65 | 6 | 5 | 4 | 72 | 46 |
| 10 | 170 | 7 | | | | | | | | |
| 20 | 177 | 8 | | | | | | | | |
| 30 | 170 | 7 | 93 | 73 | 54 | 8 | 6 | 5 | | |
| 40 | 170 | 8 | | | | | | | | |
| 50 | 170 | 6 | | | | | | | | |
| 12:00 | 135 | 6 | 118 | 92 | 74 | 8 | 5 | 5 | 72 | 42 |
| 10 | 156 | 6 | | | | | | | | |
| 20 | 160 | 6 | | | | | | | | |
| 30 | 169 | 8 | 88 | 62 | 52 | 8 | 6 | 5 | | |
| 13:00 | | | | | | | | | 72 | 42 |

6 June 1964 — Experiment No. 22 — Tracer Release from 1130 to 1230 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 220 | 8 | | | | | | | 79 | 68 |
| 10 | 208 | 8 | | | | | | | | |
| 20 | 208 | 8 | | | | | | | | |
| 30 | 206 | 10 | 122 | 98 | 88 | 15 | 9 | 7 | | |
| 40 | 220 | 11 | | | | | | | | |
| 50 | 223 | 11 | | | | | | | | |
| 12:00 | 217 | 8 | 162 | 90 | 78 | 15 | 11 | 9 | 80 | 61 |
| 10 | 225 | 9 | | | | | | | | |
| 20 | 236 | 10 | | | | | | | | |
| 30 | 210 | 11 | 122 | 88 | 74 | 12 | 9 | 6 | | |
| 40 | 212 | 9 | | | | | | | | |
| 50 | 208 | 9 | | | | | | | | |
| 13:00 | 218 | 9 | 130 | 110 | 95 | 8 | 6 | 5 | 81 | 58 |
| 10 | 219 | 8 | | | | | | | | |
| 20 | 222 | 8 | | | | | | | | |
| 30 | 230 | 9 | 103 | 89 | 66 | 9 | 6 | 5 | | |
| 14:00 | | | | | | | | | 81 | 57 |

7 June 1964 — Experiment No. 23 — Tracer Release from 1130 to 1230 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 255 | 8 | | | | | | | 82 | 58 |
| 10 | 241 | 8 | | | | | | | | |
| 20 | 251 | 8 | | | | | | | | |
| 30 | 240 | 10 | 178 | 122 | 100 | 14 | 12 | 11 | | |
| 40 | 243 | 12 | | | | | | | | |
| 50 | 253 | 9 | | | | | | | | |
| 12:00 | 256 | 8 | 115 | 99 | 85 | 13 | 13 | 10 | 82 | 58 |
| 10 | 242 | 8 | | | | | | | | |
| 20 | 262 | 7 | | | | | | | | |
| 30 | 265 | 8 | 165 | 119 | 104 | 12 | 10 | 9 | | |
| 40 | 256 | 8 | | | | | | | | |
| 50 | 266 | 9 | | | | | | | | |
| 13:00 | 246 | 9 | 185 | 130 | 114 | 15 | 12 | 10 | 82 | 58 |
| 10 | 252 | 8 | | | | | | | | |
| 20 | 248 | 8 | | | | | | | | |
| 30 | 238 | 9 | 172 | 123 | 112 | 13 | 10 | 8 | | |
| 14:00 | | | | | | | | | 82 | 58 |

9 June 1964 — Experiment No. 24 — Tracer Release from 1030 to 1130 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:00 | 230 | 16 | | | | | | | 83 | 58 |
| 10 | 228 | 18 | | | | | | | | |
| 20 | 237 | 20 | | | | | | | | |
| 30 | 229 | 18 | 118 | 100 | 85 | 22 | 19 | 17 | | |
| 40 | 238 | 19 | | | | | | | | |
| 50 | 236 | 19 | | | | | | | | |
| 11:00 | 235 | 17 | 110 | 89 | 78 | 20 | 18 | 16 | 85 | 56 |
| 10 | 232 | 19 | | | | | | | | |
| 20 | 232 | 18 | | | | | | | | |
| 30 | 230 | 18 | 102 | 90 | 76 | 20 | 18 | 5 | | |
| 40 | 233 | 18 | | | | | | | | |
| 50 | 237 | 19 | | | | | | | | |
| 12:00 | 228 | 19 | 122 | 90 | 78 | 21 | 19 | 16 | 86 | 54 |
| 10 | 232 | 18 | | | | | | | | |
| 20 | 237 | 16 | | | | | | | | |
| 30 | 243 | 16 | 138 | 108 | 90 | 23 | 20 | 14 | | |
| 13:00 | | | | | | | | | 86 | 55 |

## Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

10 June 1964 — Experiment No.25 — Tracer Release from 1033 to 1133 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:00 | 006 | 7 | | | | | | | 75 | 62 |
| 10 | 007 | 6 | | | | | | | | |
| 20 | 022 | 5 | | | | | | | | |
| 30 | 340 | 6 | 163 | 132 | 112 | 8 | 6 | 5 | | |
| 40 | 352 | 5 | | | | | | | | |
| 50 | 342 | 7 | | | | | | | | |
| 11:00 | 342 | 6 | 216 | 177 | 146 | 8 | 7 | 6 | 77 | 56 |
| 10 | 283 | 5 | | | | | | | | |
| 20 | 318 | 7 | | | | | | | | |
| 30 | 303 | 7 | 240 | 185 | 156 | 10 | 8 | 6 | | |
| 40 | 345 | 7 | | | | | | | | |
| 50 | 320 | 8 | | | | | | | | |
| 12:00 | 335 | 7 | 202 | 128 | 100 | 10 | 8 | 6 | 79 | 54 |
| 10 | 359 | 9 | | | | | | | | |
| 20 | 328 | 7 | | | | | | | | |
| 30 | 325 | 8 | 195 | 143 | 115 | 10 | 8 | 7 | | |
| 13:00 | | | | | | | | | 80 | 54 |

11 June 1964 — Experiment No. 26 — Tracer Release from 1035 to 1135 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:00 | 126 | 8 | | | | | | | 76 | 62 |
| 10 | 112 | 11 | | | | | | | | |
| 20 | 125 | 10 | | | | | | | | |
| 30 | 113 | 11 | 103 | 80 | 60 | 14 | 12 | 10 | | |
| 40 | 117 | 12 | | | | | | | | |
| 50 | 115 | 11 | | | | | | | | |
| 11:00 | 119 | 11 | 109 | 81 | 60 | 14 | 12 | 10 | 78 | 60 |
| 10 | 144 | 8 | | | | | | | | |
| 20 | 172 | 8 | | | | | | | | |
| 30 | 193 | 11 | 133 | 115 | 100 | 14 | 10 | 8 | | |
| 40 | 180 | 10 | | | | | | | | |
| 50 | 188 | 8 | | | | | | | | |
| 12:00 | 182 | 9 | 115 | 92 | 72 | 12 | 8 | 7 | 80 | 57 |
| 10 | 195 | 9 | | | | | | | | |
| 20 | 180 | 8 | | | | | | | | |
| 30 | 187 | 7 | 123 | 96 | 85 | 11 | 8 | 6 | | |
| 13:00 | | | | | | | | | 82 | 56 |

10 October 1964 — Experiment No. 27 — Tracer Release from 1130 to 1230 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 112 | 6 | | | | | | | 53 | 34 |
| 10 | 068 | 4 | | | | | | | | |
| 20 | 104 | 6 | | | | | | | | |
| 30 | 060 | 6 | 195 | 160 | 126 | 13 | 8 | 6 | | |
| 40 | 090 | 5 | | | | | | | | |
| 50 | 085 | 5 | | | | | | | | |
| 12:00 | 063 | 3 | 142 | 93 | 63 | 10 | 7 | 6 | 54 | 31 |
| 10 | 070 | 7 | | | | | | | | |
| 20 | 083 | 5 | | | | | | | | |
| 30 | 128 | 3 | 232 | 212 | 148 | 10 | 8 | 5 | | |
| 40 | 080 | 5 | | | | | | | | |
| 50 | 062 | 5 | | | | | | | | |
| 13:00 | 180 | 5 | 152 | 116 | 80 | 10 | 6 | 5 | 56 | 30 |
| 10 | 082 | 6 | | | | | | | | |
| 20 | 068 | 5 | | | | | | | | |
| 30 | 185 | 4 | 190 | 135 | 108 | 12 | 8 | 6 | | |
| 14:00 | | | | | | | | | 57 | 29 |

11 October 1964 — Experiment No. 28 — Tracer Release from 1105 to 1205 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:30 | 162 | 10 | | | | | | | | |
| 40 | 163 | 8 | | | | | | | | |
| 50 | 153 | 10 | | | | | | | | |
| 11:00 | 144 | 8 | 152 | 126 | 103 | 8 | 8 | 7 | 55 | 36 |
| 10 | 142 | 11 | | | | | | | | |
| 20 | 158 | 9 | | | | | | | | |
| 30 | 168 | 11 | 130 | 103 | 86 | 13 | 10 | 8 | | |
| 40 | 150 | 10 | | | | | | | | |
| 50 | 150 | 12 | | | | | | | | |
| 12:00 | 168 | 11 | 108 | 90 | 82 | 15 | 12 | 10 | 58 | 33 |
| 10 | 160 | 11 | | | | | | | | |
| 20 | 144 | 12 | | | | | | | | |
| 30 | 147 | 11 | 124 | 102 | 79 | 11 | 10 | 8 | | |
| 40 | 180 | 10 | | | | | | | | |
| 50 | 163 | 11 | | | | | | | | |
| 13:00 | 160 | 13 | 126 | 96 | 72 | 15 | 11 | 6 | 59 | 30 |

## Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

12 October 1964 Experiment No. 29 Tracer Release from 2000 to 2100 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 19:30 | 002 | 6 | | | | | | | | |
| 40 | 352 | 5 | | | | | | | | |
| 50 | 352 | 5 | | | | | | | | |
| 20:00 | 352 | 5 | 44 | 30 | 18 | 3 | 2 | 2 | 57 | 64 |
| 10 | 350 | 6 | | | | | | | | |
| 20 | 004 | 7 | | | | | | | | |
| 30 | 002 | 6 | 35 | 15 | 12 | 3 | 2 | <2 | | |
| 40 | 025 | 6 | | | | | | | | |
| 50 | 040 | 6 | | | | | | | | |
| 21:00 | 040 | 6 | 58 | 49 | 32 | 4 | 2 | 2 | 56 | 67 |
| 10 | 042 | 7 | | | | | | | | |
| 20 | 032 | 7 | | | | | | | | |
| 30 | 032 | 6 | 62 | 52 | 41 | 5 | 3 | 2 | | |
| 40 | 023 | 5 | | | | | | | | |
| 50 | 032 | 7 | | | | | | | | |
| 22:00 | 028 | 5 | 69 | 50 | 36 | 5 | 3 | 2 | 55 | 69 |
| 10 | 030 | 5 | | | | | | | | |
| 20 | 031 | 5 | | | | | | | | |
| 30 | 027 | 5 | 62 | 45 | 35 | 5 | 3 | 2 | | |
| 40 | 042 | 6 | | | | | | | | |
| 50 | 054 | 5 | | | | | | | | |
| 23:00 | 042 | 5 | 65 | 50 | 34 | 5 | 3 | 2 | 54 | 70 |

16 October 1964 Experiment No. 30 Tracer Release from 2000 to 2100 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 19:30 | 178 | 8 | | | | | | | | |
| 40 | 182 | 8 | | | | | | | | |
| 50 | 186 | 9 | | | | | | | | |
| 20:00 | 185 | 9 | 38 | - | - | 4 | 2 | < 2 | 64 | 37 |
| 10 | 192 | 8 | | | | | | | | |
| 20 | 202 | 8 | | | | | | | | |
| 30 | 198 | 8 | 38 | <4 | <4 | 2 | 2 | < 2 | | |
| 40 | 196 | 8 | | | | | | | | |
| 50 | 200 | 9 | | | | | | | | |
| 21:00 | 193 | 10 | 18 | - | - | 3 | < 2 | < | 64 | 38 |
| 10 | 192 | 11 | | | | | | | | |
| 20 | 195 | 10 | | | | | | | | |
| 30 | 202 | 10 | 29 | - | - | 2 | < 2 | < | | |
| 40 | 202 | 10 | | | | | | | | |
| 50 | 196 | 12 | | | | | | | | |
| 22:00 | 194 | 13 | 36 | 29 | 15 | 6 | 4 | 12 | 62 | 40 |
| 10 | 195 | 14 | | | | | | | | |
| 20 | 192 | 14 | | | | | | | | |
| 30 | 194 | 14 | 15 | - | - | 4 | 2 | < 2 | | |
| 40 | 197 | 14 | | | | | | | | |
| 50 | 204 | 11 | | | | | | | | |
| 23:00 | 200 | 10 | 55 | 42 | 30 | 5 | 4 | 3 | 61 | 41 |

# Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

17 October 1964 — Experiment No. 31 — Tracer Release from 1315 to 1415 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 12:50 | 178 | 13 | | | | | | | | |
| 13:00 | 170 | 12 | | | | | | | 81 | 26 |
| 10 | 166 | 12 | | | | | | | | |
| 20 | 148 | 11 | 118 | 98 | 78 | 12 | 10 | 8 | | |
| 30 | 167 | 11 | | | | | | | | |
| 40 | 160 | 11 | | | | | | | | |
| 50 | 163 | 11 | 90 | 75 | 67 | 14 | 10 | 8 | | |
| 14:00 | 173 | 13 | | | | | | | 82 | 26 |
| 10 | 168 | 10 | | | | | | | | |
| 20 | 170 | 10 | 109 | 86 | 71 | 14 | 12 | 9 | | |
| 30 | 180 | 11 | | | | | | | | |
| 40 | 183 | 11 | | | | | | | | |
| 50 | 172 | 11 | 124 | 100 | 80 | 13 | 8 | 6 | | |
| 15:00 | 183 | 10 | | | | | | | 82 | 26 |
| 10 | 163 | 11 | | | | | | | | |
| 20 | 168 | 12 | 122 | 98 | 85 | 11 | 8 | 6 | | |
| 16:00 | | | | | | | | | 82 | 28 |

19 October 1964 — Experiment No. 32 — Tracer Release from 1945 to 2045 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 19:10 | 360 | 11 | | | | | | | | |
| 20 | 012 | 9 | | | | | | | | |
| 30 | 010 | 10 | | | | | | | | |
| 40 | 355 | 10 | 60 | 52 | 36 | 8 | 6 | 4 | | |
| 50 | 360 | 9 | | | | | | | | |
| 20:00 | 002 | 9 | | | | | | | 47 | 52 |
| 10 | 355 | 9 | 60 | 48 | 35 | 6 | 5 | 4 | | |
| 20 | 350 | 8 | | | | | | | | |
| 30 | 343 | 8 | | | | | | | | |
| 40 | 348 | 8 | 55 | 45 | 35 | 5 | 4 | 3 | | |
| 50 | 347 | 7 | | | | | | | | |
| 21:00 | 352 | 7 | | | | | | | 46 | 56 |
| 10 | 345 | 7 | 53 | 39 | 29 | 4 | 4 | 3 | | |
| 20 | 340 | 8 | | | | | | | | |
| 30 | 335 | 7 | | | | | | | | |
| 40 | 324 | 5 | 45 | 34 | 29 | 5 | 2 | 2 | | |
| 50 | 332 | 6 | | | | | | | | |
| 22:00 | 322 | 6 | | | | | | | 44 | 63 |
| 10 | 315 | 7 | 28 | 17 | 8 | 2 | 2 | <2 | | |
| 20 | 316 | 8 | | | | | | | | |
| 30 | 326 | 8 | | | | | | | | |
| 40 | 332 | 8 | 45 | 27 | 18 | 3 | 2 | 2 | | |
| 23:00 | | | | | | | | | 40 | 70 |

20 October 1964 — Experiment No. 33 — Tracer Release from 1915 to 2015 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 18:40 | 208 | 11 | | | | | | | | |
| 50 | 204 | 11 | | | | | | | | |
| 19:00 | 207 | 11 | | | | | | | 52 | 25 |
| 10 | 208 | 11 | 62 | 45 | 38 | 6 | 5 | 5 | | |
| 20 | 210 | 11 | | | | | | | | |
| 30 | 210 | 12 | | | | | | | | |
| 40 | 211 | 11 | 75 | 60 | 52 | 10 | 8 | 6 | | |
| 50 | 212 | 12 | | | | | | | | |
| 20:00 | 212 | 11 | | | | | | | 51 | 25 |
| 10 | 212 | 11 | 80 | 66 | 56 | 14 | 10 | 8 | | |
| 20 | 213 | 10 | | | | | | | | |
| 30 | 213 | 11 | | | | | | | | |
| 40 | 214 | 11 | 95 | 76 | 61 | 10 | 9 | 7 | | |
| 50 | 214 | 12 | | | | | | | | |
| 21:00 | 221 | 12 | | | | | | | 51 | 25 |
| 10 | 222 | 13 | 98 | 80 | 61 | 14 | 10 | 9 | | |
| 20 | 225 | 14 | | | | | | | | |
| 30 | 225 | 14 | | | | | | | | |
| 40 | 226 | 15 | 103 | 81 | 59 | 16 | 12 | 10 | | |
| 50 | 227 | 14 | | | | | | | | |
| 22:00 | 225 | 14 | | | | | | | 52 | 25 |
| 10 | 228 | 15 | 88 | 72 | 58 | 14 | 14 | 15 | | |

# Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

21 October 1964 — Experiment No. 34 — Tracer Release from 1920 to 2020 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 18:30 | 015 | 11 | | | | | | | | |
| 40 | 013 | 12 | | | | | | | | |
| 50 | 024 | 11 | | | | | | | | |
| 19:00 | 028 | 10 | 72 | 61 | 50 | 8 | 7 | 6 | 58 | 27 |
| 10 | 028 | 11 | | | | | | | | |
| 20 | 028 | 11 | | | | | | | | |
| 30 | 032 | 14 | 82 | 68 | 58 | 14 | 13 | 11 | | |
| 40 | 036 | 13 | | | | | | | | |
| 50 | 032 | 11 | | | | | | | | |
| 20:00 | 031 | 10 | 91 | 80 | 69 | 15 | 12 | 9 | 56 | 29 |
| 10 | 025 | 11 | | | | | | | | |
| 20 | 030 | 11 | | | | | | | | |
| 30 | 030 | 8 | 85 | 72 | 62 | 13 | 10 | 8 | | |
| 40 | 024 | 9 | | | | | | | | |
| 50 | 025 | 9 | | | | | | | | |
| 21:00 | 030 | 8 | 98 | 75 | 62 | 12 | 9 | 6 | 53 | 30 |
| 10 | 339 | 8 | | | | | | | | |
| 20 | 040 | 8 | | | | | | | | |
| 30 | 038 | 6 | 102 | 80 | 69 | 10 | 6 | 6 | | |
| 40 | 036 | 8 | | | | | | | | |
| 50 | 036 | 8 | | | | | | | | |
| 22:00 | 038 | 6 | 82 | 66 | 54 | 8 | 6 | 6 | 50 | 34 |

6 March 1965 — Experiment No. 35 — Tracer Release from 1230 to 1330 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 | 321 | 17 | | | | | | | 33 | 78 |
| 10 | 320 | 16 | | | | | | | | |
| 20 | 320 | 17 | | | | | | | | |
| 30 | 328 | 16 | 69 | 52 | 42 | 14 | 10 | 9 | | |
| 40 | 329 | 15 | | | | | | | | |
| 50 | 316 | 17 | | | | | | | | |
| 13:00 | 318 | 14 | 64 | 55 | 46 | 13 | 10 | 8 | 33 | 77 |
| 10 | 315 | 15 | | | | | | | | |
| 20 | 314 | 16 | | | | | | | | |
| 30 | 322 | 14 | 67 | 56 | 47 | 13 | 10 | 8 | | |
| 40 | 321 | 16 | | | | | | | | |
| 50 | 323 | 15 | | | | | | | | |
| 14:00 | 312 | 13 | 68 | 61 | 51 | 13 | 10 | 8 | 33 | 76 |
| 10 | 314 | 14 | | | | | | | | |
| 20 | 307 | 14 | | | | | | | | |
| 30 | 315 | 14 | 82 | 63 | 49 | 14 | 14 | 14 | | |
| 15:00 | | | | | | | | | 34 | 74 |

7 March 1965 — Experiment No. 36 — Tracer Release from 1230 to 1330 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 | 360 | 10 | | | | | | | 34 | 90 |
| 10 | 350 | 11 | | | | | | | | |
| 20 | 002 | 12 | | | | | | | | |
| 30 | 004 | 11 | 68 | 56 | 44 | 8 | 6 | 5 | | |
| 40 | 353 | 11 | | | | | | | | |
| 50 | 356 | 12 | | | | | | | | |
| 13:00 | 352 | 11 | 62 | 58 | 39 | 9 | 8 | 6 | 35 | 86 |
| 10 | 344 | 10 | | | | | | | | |
| 20 | 341 | 11 | | | | | | | | |
| 30 | 340 | 12 | 56 | 39 | 32 | 13 | 10 | 6 | | |
| 40 | 342 | 13 | | | | | | | | |
| 50 | 338 | 14 | | | | | | | | |
| 14:00 | 341 | 12 | 60 | 50 | 41 | 12 | 8 | 5 | 35 | 81 |
| 10 | 345 | 12 | | | | | | | | |
| 20 | 352 | 12 | | | | | | | | |
| 30 | 358 | 12 | 84 | 62 | 50 | 8 | 7 | 5 | | |
| 15:00 | | | | | | | | | 35 | 76 |

## Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

8 March 1965 — Experiment No. 37 — Tracer Release from 2030 to 2130 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:00 | 305 | 16 | | | | | | | 36 | 63 |
| 10 | 308 | 16 | | | | | | | | |
| 20 | 307 | 15 | | | | | | | | |
| 30 | 312 | 15 | 70 | 55 | 45 | 13 | 10 | 7 | | |
| 40 | 312 | 13 | | | | | | | | |
| 50 | 312 | 13 | | | | | | | | |
| 21:00 | 310 | 12 | 71 | 53 | 42 | 10 | 8 | 6 | 37 | 67 |
| 10 | 308 | 12 | | | | | | | | |
| 20 | 305 | 14 | | | | | | | | |
| 30 | 308 | 13 | 62 | 48 | 40 | 10 | 8 | 6 | | |
| 40 | 312 | 14 | | | | | | | | |
| 50 | 315 | 16 | | | | | | | | |
| 22:00 | 320 | 18 | 75 | 53 | 42 | 16 | 12 | 10 | 36 | 72 |
| 10 | 325 | 16 | | | | | | | | |
| 20 | 326 | 15 | | | | | | | | |
| 30 | 319 | 15 | 68 | 59 | 50 | 13 | 10 | 9 | | |
| 40 | 318 | 12 | | | | | | | | |
| 50 | 325 | 16 | | | | | | | | |
| 23:00 | 325 | 13 | 78 | 62 | 49 | 18 | 12 | 9 | 35 | 75 |
| 10 | 320 | 12 | | | | | | | | |
| 20 | 312 | 13 | | | | | | | | |
| 30 | 318 | 14 | 81 | 65 | 52 | 13 | 11 | 7 | | |
| 24:00 | | | | | | | | | 33 | 70 |

11 March 1965 — Experiment No. 38 — Tracer Release from 2030 to 2130 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:00 | 295 | 6 | | | | | | | 40 | 47 |
| 10 | 298 | 6 | | | | | | | | |
| 20 | 300 | 6 | | | | | | | | |
| 30 | 308 | 7 | 35 | - | - | <2 | < | < | | |
| 40 | 325 | 8 | | | | | | | | |
| 50 | 332 | 7 | | | | | | | | |
| 21:00 | 332 | 6 | 50 | 40 | 26 | 5 | 4 | 2 | 40 | 49 |
| 10 | 322 | 5 | | | | | | | | |
| 20 | 338 | 5 | | | | | | | | |
| 30 | 348 | 5 | 50 | 32 | 25 | 2 | <2 | < | | |
| 40 | 356 | 5 | | | | | | | | |
| 50 | 360 | 6 | | | | | | | | |
| 22:00 | 005 | 5 | 40 | 26 | 15 | 3 | 3 | 2 | 39 | 52 |
| 10 | 360 | 6 | | | | | | | | |
| 20 | 356 | 5 | | | | | | | | |
| 30 | 352 | 4 | 41 | 20 | 15 | 3 | 2 | 2 | | |
| 40 | 340 | 5 | | | | | | | | |
| 50 | 353 | 4 | | | | | | | | |
| 23:00 | 360 | 4 | 42 | 19 | 16 | 3 | 3 | 2 | 38 | 56 |
| 10 | 002 | 3 | | | | | | | | |
| 20 | 358 | 5 | | | | | | | | |
| 30 | 006 | 4 | 39 | 18 | 14 | 2 | 2 | <2 | | |
| 24:00 | | | | | | | | | 38 | 59 |

# Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

15 March 1965 — Experiment No. 39 — Tracer Release from 1220 to 1320 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11:50 | 278 | 6 | | | | | | | | |
| 12:00 | 330 | 5 | | | | | | | - | 54 |
| 10 | 358 | 7 | | | | | | | | |
| 20 | 320 | 5 | 250 | 215 | 184 | 8 | 6 | 5 | | |
| 30 | 322 | 8 | | | | | | | | |
| 40 | 356 | 6 | | | | | | | | |
| 50 | 322 | 8 | 148 | 125 | 108 | 11 | 9 | 7 | | |
| 13:00 | 360 | 5 | | | | | | | - | 51 |
| 10 | 005 | 6 | | | | | | | | |
| 20 | 348 | 5 | 207 | 165 | 162 | 10 | 8 | 6 | | |
| 30 | 280 | 6 | | | | | | | | |
| 40 | 280 | 6 | | | | | | | | |
| 50 | 252 | 5 | 220 | 200 | 187 | 10 | 8 | 6 | | |
| 14:00 | 312 | 6 | | | | | | | - | 46 |
| 10 | 300 | 5 | | | | | | | | |
| 20 | 320 | 4 | 196 | 158 | 150 | 8 | 6 | 5 | | |

14 March 1965 — Experiment No. 40 — Tracer Release from 1100 to 1200 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:50 | 320 | 17 | | | | | | | | |
| 40 | 325 | 14 | | | | | | | | |
| 50 | 319 | 13 | | | | | | | | |
| 11:00 | 314 | 15 | 105 | 79 | 68 | 16 | 10 | 8 | 39 | 67 |
| 10 | 311 | 14 | | | | | | | | |
| 20 | 311 | 14 | | | | | | | | |
| 30 | 350 | 15 | 126 | 90 | 78 | 15 | 12 | 10 | | |
| 40 | 330 | 16 | | | | | | | | |
| 50 | 312 | 14 | | | | | | | | |
| 12:00 | 328 | 21 | 91 | 81 | 72 | 20 | 18 | 15 | 41 | 59 |
| 10 | 330 | 16 | | | | | | | | |
| 20 | 313 | 21 | | | | | | | | |
| 30 | 310 | 19 | 102 | 82 | 63 | 18 | 15 | 13 | | |
| 40 | 318 | 20 | | | | | | | | |
| 50 | 332 | 18 | | | | | | | | |
| 13:00 | 315 | 18 | 102 | 78 | 70 | 16 | 13 | 11 | 45 | 52 |

15 March 1965 — Experiment No. 41 — Tracer Release from 2050 to 2150 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:20 | 350 | 6 | | | | | | | | |
| 30 | 346 | 6 | | | | | | | | |
| 40 | 347 | 6 | | | | | | | | |
| 50 | 352 | 6 | 10 | - | - | <2 | <2 | <2 | | |
| 21:00 | 352 | 6 | | | | | | | 45 | 48 |
| 10 | 358 | 7 | | | | | | | | |
| 20 | 009 | 8 | 20 | - | - | <2 | <2 | <2 | | |
| 30 | 012 | 8 | | | | | | | | |
| 40 | 010 | 8 | | | | | | | | |
| 50 | 015 | 8 | 18 | 15 | 12 | 2 | 2 | <2 | | |
| 22:00 | 030 | 8 | | | | | | | 43 | 46 |
| 10 | 030 | 8 | | | | | | | | |
| 20 | 040 | 7 | 52 | 35 | 30 | 5 | 4 | 2 | | |
| 30 | 054 | 8 | | | | | | | | |
| 40 | 052 | 8 | | | | | | | | |
| 50 | 042 | 8 | 30 | 25 | 23 | 3 | 2 | <2 | | |
| 23:00 | 043 | 8 | | | | | | | 41 | 49 |
| 10 | 055 | 6 | | | | | | | | |
| 20 | 055 | 5 | 42 | 30 | 28 | 2 | 2 | <2 | | |
| 30 | 070 | 6 | | | | | | | | |
| 40 | 100 | 6 | | | | | | | | |
| 50 | 100 | 6 | 38 | 28 | 25 | 3 | 2 | <2 | | |
| 24:00 | | | | | | | | | 40 | 52 |

## Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

16 March 1965 — Experiment No. 42 — Tracer Release from 2050 to 2130 CDT

| Time (CDT) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:00 | 138 | 19 | | | | | | | | |
| 10 | 138 | 17 | | | | | | | - | 61 |
| 20 | 136 | 18 | | | | | | | | |
| 30 | 136 | 16 | 61 | 55 | 48 | 17 | 14 | 13 | | |
| 40 | 134 | 16 | | | | | | | | |
| 50 | 132 | 17 | | | | | | | | |
| 21:00 | 132 | 17 | 61 | 54 | 42 | 15 | 13 | 10 | 55 | 55 |
| 10 | 132 | 17 | | | | | | | | |
| 20 | 140 | 16 | | | | | | | | |
| 30 | 147 | 18 | 78 | 62 | 44 | 16 | 13 | 10 | | |
| 40 | 148 | 20 | | | | | | | | |
| 50 | 148 | 18 | | | | | | | | |
| 22:00 | 148 | 16 | 90 | 69 | 56 | 22 | 19 | 15 | 55 | 57 |
| 10 | 150 | 16 | | | | | | | | |
| 20 | 152 | 18 | | | | | | | | |
| 30 | 150 | 17 | 86 | 65 | 53 | 20 | 18 | 15 | | |
| 40 | 150 | 19 | | | | | | | | |
| 50 | 155 | 18 | | | | | | | | |
| 23:00 | 160 | 20 | 90 | 71 | 55 | 28 | 19 | 14 | 56 | 63 |
| 10 | 160 | 22 | | | | | | | | |
| 20 | 163 | 20 | | | | | | | | |
| 30 | 160 | 18 | 92 | 68 | 58 | 22 | 20 | 16 | | |
| 24:00 | | | | | | | | | 56 | 65 |

17 March 1965 — Experiment No. 43 — Tracer Release from 2000 to 2100 CDT

| Time (CDT) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 19:30 | 303 | 28 | | | | | | | | |
| 40 | 303 | 28 | | | | | | | | |
| 50 | 300 | 27 | | | | | | | | |
| 20:00 | 302 | 28 | 88 | 65 | 52 | 29 | 21 | 18 | 30 | 64 |
| 10 | 312 | 26 | | | | | | | | |
| 20 | 308 | 21 | | | | | | | | |
| 30 | 307 | 21 | 82 | 65 | 55 | 26 | 20 | 18 | | |
| 40 | 308 | 24 | | | | | | | | |
| 50 | 305 | 28 | | | | | | | | |
| 21:00 | 314 | 28 | 90 | 65 | 58 | 30 | 25 | 20 | 27 | 64 |
| 10 | 318 | 25 | | | | | | | | |
| 20 | 315 | 21 | | | | | | | | |
| 30 | 307 | 21 | 108 | 82 | 65 | 22 | 18 | 15 | | |
| 40 | 312 | 25 | | | | | | | | |
| 50 | 310 | 22 | | | | | | | | |
| 22:00 | 320 | 25 | 95 | 68 | 58 | 28 | 22 | 19 | 26 | 65 |
| 10 | 316 | 21 | | | | | | | | |
| 20 | 292 | 19 | | | | | | | | |
| 30 | 298 | 19 | 92 | 63 | 50 | 18 | 15 | 12 | | |
| 40 | 300 | 19 | | | | | | | | |
| 50 | 292 | 20 | | | | | | | | |
| 23:00 | 300 | 22 | 72 | 63 | 56 | 19 | 15 | 13 | 25 | 65 |



57 1/2

BLANK PAGE

TABLE 15. METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

Symbols

D(deg): Surface wind direction in whole degrees of azimuth

S(mph): Surface wind speed in whole miles per hour

Direction Range 1, 3, and 5: The first, third, and fifth highest wind direction in whole degrees of azimuth

Speed Range 1, 3, and 5: The first, third, and fifth highest wind speed ranges in whole miles per hour

T(°F): Temperature in whole degrees Fahrenheit

RH(%): Relative humidity in whole percent

C : Calm - Wind speed less than threshold speed of the instrument

- : Missing Data; for wind direction ranges, data either missing or Undefined.

Preceding page blank

# Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

27 May 1963 — Experiment No. 2 — Tracer Release From 1410 to 1440 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 13:30 | 290 | 11 | | | | | | | | |
| 40 | 300 | 11 | | | | | | | | |
| 50 | 290 | 11 | | | | | | | | |
| 14:00 | 290 | 12 | 138 | 115 | 85 | 14 | 9 | 8 | 75 | 60 |
| 10 | 295 | 11 | | | | | | | | |
| 20 | 270 | 9 | | | | | | | | |
| 30 | 290 | 12 | 180 | 140 | 65 | 17 | 14 | 11 | | |
| 40 | 295 | 11 | | | | | | | | |
| 50 | 285 | 11 | | | | | | | | |
| 15:00 | 275 | 10 | 150 | 115 | 85 | 15 | 13 | 11 | 77 | 57 |
| 10 | 275 | 9 | | | | | | | | |
| 20 | 280 | 11 | | | | | | | | |
| 30 | 280 | 11 | 153 | 138 | 117 | 16 | 13 | 13 | | |
| 40 | 270 | 10 | | | | | | | | |
| 50 | 278 | 9 | | | | | | | | |
| 16:00 | 288 | 11 | 230 | 120 | 100 | 14 | 14 | 12 | 77 | 58 |

28 May 1963 — Experiment No. 3 — Tracer Release from 1000 to 1100 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 9:30 | 278 | 8 | | | | | | | | |
| 40 | 272 | 7 | | | | | | | | |
| 50 | 275 | 10 | | | | | | | | |
| 10:00 | 287 | 9 | 215 | 172 | 148 | 22 | 14 | 12 | 70 | 63 |
| 10 | 288 | 9 | | | | | | | | |
| 20 | 282 | 11 | | | | | | | | |
| 30 | 286 | 10 | 248 | 178 | 93 | 17 | 14 | 9 | | |
| 40 | 300 | 11 | | | | | | | | |
| 50 | 304 | 11 | | | | | | | | |
| 11:00 | 306 | 10 | 215 | 120 | 86 | 14 | 10 | 9 | 71 | 62 |
| 10 | 280 | 12 | | | | | | | | |
| 20 | 263 | 14 | | | | | | | | |
| 30 | 270 | 13 | 276 | 145 | 114 | 17 | 13 | 9 | | |
| 40 | 277 | 13 | | | | | | | | |
| 50 | 278 | 10 | | | | | | | | |
| 12:00 | 277 | 11 | 228 | 150 | 93 | 16 | 10 | 6 | 72 | 62 |

19 July 1963 — Experiment No. 4 — Tracer Release from 1130 to 1230 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 242 | 9 | | | | | | | 90 | 60 |
| 10 | 238 | 9 | | | | | | | | |
| 20 | 258 | 11 | | | | | | | | |
| 30 | 240 | 11 | 232 | 162 | 130 | 16 | 13 | 9 | | |
| 40 | 230 | 12 | | | | | | | | |
| 50 | 170 | 14 | | | | | | | | |
| 12:00 | 176 | 12 | 214 | 152 | 125 | 16 | 14 | 10 | 91 | 58 |
| 10 | 250 | 11 | | | | | | | | |
| 20 | 242 | 11 | | | | | | | | |
| 30 | 246 | 12 | 210 | 145 | 120 | 17 | 14 | 11 | | |
| 40 | 236 | 13 | | | | | | | | |
| 50 | 238 | 12 | | | | | | | | |
| 13:00 | 246 | 13 | 240 | 183 | 126 | 15 | 13 | 11 | 92 | 57 |
| 10 | 230 | 9 | | | | | | | | |
| 20 | 240 | 9 | | | | | | | | |
| 30 | 230 | 12 | 213 | 150 | 118 | 17 | 14 | 11 | | |
| 14:00 | | | | | | | | | 92 | 55 |

22 July 1963 — Experiment No. 5 — Tracer Release from 1184 to 1204 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:30 | 215 | 10 | | | | | | | | |
| 40 | 205 | 9 | | | | | | | | |
| 50 | 208 | 9 | | | | | | | | |
| 11:00 | 215 | 9 | 143 | 130 | 108 | 9 | 7 | 6 | 84 | 59 |
| 10 | 205 | 9 | | | | | | | | |
| 20 | 278 | 9 | | | | | | | | |
| 30 | 150 | 9 | 168 | 140 | 125 | 8 | 7 | 6 | | |
| 40 | 193 | 10 | | | | | | | | |
| 50 | 195 | 9 | | | | | | | | |
| 12:00 | 170 | 8 | 163 | 142 | 130 | 10 | 8 | 6 | 85 | 59 |
| 10 | 103 | 10 | | | | | | | | |
| 20 | 175 | 9 | | | | | | | | |
| 30 | 166 | 9 | 158 | 130 | 112 | 10 | 8 | 7 | | |
| 40 | 176 | 10 | | | | | | | | |
| 50 | 180 | 9 | | | | | | | | |
| 13:00 | 185 | 13 | 135 | 102 | 88 | 15 | 11 | 9 | 86 | 59 |

# Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

23 July 1963 — Experiment No. 6 — Tracer Release from 1130 to 1230 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 155 | 9 | | | | | | | 85 | 60 |
| 10 | 165 | 9 | | | | | | | | |
| 20 | 170 | 9 | | | | | | | | |
| 30 | 145 | 9 | 205 | 135 | 113 | 10 | 8 | 6 | | |
| 40 | 145 | 9 | | | | | | | | |
| 50 | 135 | 9 | | | | | | | | |
| 12:00 | 128 | 9 | 190 | 148 | 120 | 11 | 9 | 7 | 87 | 58 |
| 10 | 165 | 11 | | | | | | | | |
| 20 | 130 | 9 | | | | | | | | |
| 30 | 130 | 9 | 165 | 130 | 114 | 11 | 9 | 7 | | |
| 40 | 118 | 10 | | | | | | | | |
| 50 | 115 | 11 | | | | | | | | |
| 13:00 | 122 | 10 | 210 | 146 | 135 | 11 | 9 | 6 | 88 | 54 |
| 10 | 120 | 11 | | | | | | | | |
| 20 | 120 | 10 | | | | | | | | |
| 30 | 153 | 11 | 180 | 143 | 130 | 13 | 10 | 8 | | |
| 14:00 | | | | | | | | | 88 | 52 |

25 July 1963 — Experiment No. 7 — Tracer Release from 1040 to 1140 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:10 | 153 | 11 | | | | | | | | |
| 20 | 152 | 11 | | | | | | | | |
| 30 | 144 | 11 | | | | | | | | |
| 40 | 142 | 12 | 185 | 150 | 132 | 11 | 9 | 7 | | |
| 50 | 165 | 15 | | | | | | | | |
| 11:00 | 138 | 14 | | | | | | | 83 | 54 |
| 10 | 144 | 11 | 218 | 156 | 134 | 11 | 10 | 9 | | |
| 20 | 157 | 14 | | | | | | | | |
| 30 | 138 | 13 | | | | | | | | |
| 40 | 140 | 10 | 188 | 136 | 115 | 13 | 9 | 7 | | |
| 50 | 133 | 11 | | | | | | | | |
| 12:00 | 155 | 11 | | | | | | | 84 | 52 |
| 10 | 153 | 11 | 250 | 186 | 164 | 15 | 11 | 10 | | |
| 20 | 166 | 14 | | | | | | | | |
| 30 | 160 | 15 | | | | | | | | |
| 40 | 160 | 14 | 175 | 128 | 112 | 14 | 10 | 9 | | |
| 13:00 | | | | | | | | | 85 | 52 |

20 July 1963 — Experiment No. 8 — Tracer Release from 1045 to1145 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:10 | 158 | 14 | | | | | | | | |
| 20 | 160 | 15 | | | | | | | | |
| 30 | 152 | 13 | | | | | | | | |
| 40 | 152 | 13 | 156 | 137 | 95 | 14 | 10 | 8 | | |
| 50 | 155 | 13 | | | | | | | | |
| 11:00 | 140 | 13 | | | | | | | 79 | 68 |
| 10 | 162 | 16 | 160 | 128 | 118 | 14 | 11 | 10 | | |
| 20 | 160 | 13 | | | | | | | | |
| 30 | 152 | 13 | | | | | | | | |
| 40 | 170 | 11 | 153 | 122 | 94 | 15 | 11 | 9 | | |
| 50 | 152 | 13 | | | | | | | | |
| 12:00 | 152 | 14 | | | | | | | 81 | 62 |
| 10 | 160 | 16 | 140 | 126 | 106 | 14 | 10 | 9 | | |
| 20 | 162 | 15 | | | | | | | | |
| 30 | 160 | 16 | | | | | | | | |
| 40 | 164 | 16 | 135 | 132 | 95 | 16 | 12 | 9 | | |
| 13:00 | | | | | | | | | 82 | 60 |

12 September 1963 — Experiment No. 9 — Tracer Release from 1115 to 1215 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:50 | 332 | 9 | | | | | | | | |
| 11:00 | 338 | 11 | | | | | | | 84 | 63 |
| 10 | 340 | 9 | | | | | | | | |
| 20 | 328 | 9 | 125 | 105 | 90 | 11 | 9 | 7 | | |
| 30 | 328 | 9 | | | | | | | | |
| 40 | 348 | 10 | | | | | | | | |
| 50 | 325 | 9 | 130 | 108 | 96 | 9 | 8 | 7 | | |
| 12:00 | 350 | 10 | | | | | | | 85 | 60 |
| 10 | 350 | 12 | | | | | | | | |
| 20 | 312 | 11 | 160 | 130 | 118 | 11 | 9 | 7 | | |
| 30 | 345 | 10 | | | | | | | | |
| 40 | 360 | 11 | | | | | | | | |
| 50 | 324 | 9 | 150 | 118 | 104 | 10 | 9 | 7 | | |
| 13:00 | 332 | 10 | | | | | | | 85 | 60 |
| 10 | 332 | 9 | | | | | | | | |
| 20 | 326 | 10 | 145 | 103 | 78 | 10 | 9 | 9 | | |

# Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

14 September 1963 Experiment No. 10 Tracer Release from 1045 to 1145 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:20 | 060 | 6 | | | | | | | | |
| 30 | 145 | 6 | | | | | | | | |
| 40 | 080 | 7 | | | | | | | | |
| 50 | 074 | 6 | 228 | 199 | 162 | 8 | 6 | 5 | | |
| 11:00 | 082 | 6 | | | | | | | 70 | 50 |
| 10 | 100 | 6 | | | | | | | | |
| 20 | 102 | 8 | 214 | 158 | 122 | 9 | 7 | 6 | | |
| 30 | 066 | 7 | | | | | | | | |
| 40 | 110 | 8 | | | | | | | | |
| 50 | 112 | 8 | 195 | 133 | 102 | 9 | 7 | 6 | | |
| 12:00 | 098 | 8 | | | | | | | 73 | 47 |
| 10 | 088 | 9 | | | | | | | | |
| 20 | 113 | 9 | 205 | 145 | 111 | 11 | 8 | 6 | | |
| 30 | 110 | 9 | | | | | | | | |
| 40 | 096 | 10 | | | | | | | | |
| 50 | 105 | 9 | 212 | 158 | 138 | 16 | 11 | 8 | | |
| 13:00 | | | | | | | | | 74 | 46 |

16 September 1963 Experiment No. 11 Tracer Release from 1100 to 1200 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:30 | 152 | 11 | | | | | | | | |
| 40 | 155 | 12 | | | | | | | | |
| 50 | 155 | 13 | | | | | | | | |
| 11:00 | 152 | 13 | 190 | 132 | 112 | 14 | 13 | 11 | 79 | 49 |
| 10 | 152 | 12 | | | | | | | | |
| 20 | 160 | 12 | | | | | | | | |
| 30 | 166 | 10 | 178 | 143 | 117 | 15 | 11 | 10 | | |
| 40 | 140 | 10 | | | | | | | | |
| 50 | 150 | 10 | | | | | | | | |
| 12:00 | 156 | 11 | 225 | 152 | 118 | 14 | 11 | 9 | 81 | 45 |
| 10 | 168 | 13 | | | | | | | | |
| 20 | 162 | 11 | | | | | | | | |
| 30 | 152 | 9 | 196 | 143 | 105 | 16 | 11 | 10 | | |
| 40 | 140 | 11 | | | | | | | | |
| 50 | 148 | 11 | | | | | | | | |
| 13:00 | 168 | 9 | 172 | 144 | 120 | 15 | 12 | 10 | 83 | 43 |

17 September 1963 Experiment No. 12 Tracer Release from 2000 to 2030 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 19:30 | 142 | 6 | | | | | | | | |
| 40 | 138 | 6 | | | | | | | | |
| 50 | 140 | 6 | | | | | | | | |
| 20:00 | 140 | 6 | 62 | 50 | 38 | 4 | <2 | <2 | 70 | 76 |
| 10 | 150 | 7 | | | | | | | | |
| 20 | 155 | 6 | | | | | | | | |
| 30 | 150 | 5 | 65 | 48 | 36 | 4 | <2 | <2 | | |
| 40 | 152 | 6 | | | | | | | | |
| 50 | 152 | 7 | | | | | | | | |
| 21:00 | 158 | 7 | 42 | 35 | 28 | 4 | <2 | <2 | 70 | 80 |
| 10 | 158 | 7 | | | | | | | | |
| 20 | 168 | 8 | | | | | | | | |
| 30 | 172 | 9 | 52 | 42 | 30 | 4 | <2 | <2 | | |
| 40 | 181 | 8 | | | | | | | | |
| 50 | 187 | 7 | | | | | | | | |
| 22:00 | 170 | 7 | 30 | - | - | <2 | <2 | <2 | 68 | 83 |
| 10 | 212 | 5 | | | | | | | | |
| 20 | 218 | 5 | | | | | | | | |
| 30 | 212 | 5 | 43 | 30 | 26 | <2 | <2 | <2 | | |
| 23:00 | | | | | | | | | 65 | 88 |

# Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

18 September 1963 Experiment No. 13 Tracer Release from 2000 to 2100 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 19:30 | 055 | 4 | | | | | | | | |
| 40 | 060 | 4 | | | | | | | | |
| 50 | 070 | 4 | | | | | | | | |
| 20:00 | 090 | 5 | 50 | - | - | 2 | <2 | <2 | 56 | 99 |
| 10 | 110 | 6 | | | | | | | | |
| 20 | 140 | 7 | | | | | | | | |
| 30 | 140 | 7 | 30 | 15 | 15 | 2 | <2 | <2 | | |
| 40 | 110 | 7 | | | | | | | | |
| 50 | 122 | 6 | | | | | | | | |
| 21:00 | 118 | 6 | 28 | 20 | 20 | 2 | <2 | <2 | 56 | 99 |
| 10 | 112 | 6 | | | | | | | | |
| 20 | 120 | 6 | | | | | | | | |
| 30 | 120 | 5 | 35 | 18 | 18 | 2 | <2 | <2 | | |
| 40 | 120 | 4 | | | | | | | | |
| 50 | 123 | 5 | | | | | | | | |
| 22:00 | 185 | 6 | 105 | - | - | 2 | <2 | <2 | 57 | 99 |
| 10 | 220 | 7 | | | | | | | | |
| 20 | 226 | 6 | | | | | | | | |
| 30 | 230 | 5 | 45 | 35 | 32 | 2 | <2 | <2 | | |
| 40 | 245 | 5 | | | | | | | | |
| 50 | 238 | 4 | | | | | | | | |
| 23:00 | 252 | 4 | 82 | 56 | 50 | 2 | <2 | <2 | 57 | 99 |

1 April 1964 Experiment No. 14 Tracer Release from 1200 to 1300 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11:30 | 138 | 16 | | | | | | | | |
| 40 | 130 | 17 | | | | | | | | |
| 50 | 138 | 15 | | | | | | | | |
| 12:00 | 140 | 16 | 214 | 162 | 128 | 19 | 16 | 14 | 51 | 42 |
| 10 | 140 | 17 | | | | | | | | |
| 20 | 130 | 16 | | | | | | | | |
| 30 | 128 | 16 | 200 | 156 | 112 | 22 | 18 | 16 | | |
| 40 | 138 | 18 | | | | | | | | |
| 50 | 142 | 16 | | | | | | | | |
| 13:00 | 132 | 16 | 183 | 152 | 119 | 20 | 16 | 14 | 54 | 45 |
| 10 | 140 | 16 | | | | | | | | |
| 20 | 146 | 17 | | | | | | | | |
| 30 | 130 | 17 | 165 | 138 | 122 | 18 | 16 | 14 | | |
| 40 | 140 | 14 | | | | | | | | |
| 50 | 142 | 20 | | | | | | | | |
| 14:00 | 135 | 16 | 160 | 122 | 90 | 18 | 15 | 13 | 55 | 44 |

6 April 1964 Experiment No. 15 Tracer Release from 2040 to 2140 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:10 | 158 | 10 | | | | | | | | |
| 20 | 150 | 9 | | | | | | | | |
| 30 | 208 | 10 | | | | | | | | |
| 40 | 174 | 9 | 123 | 90 | 75 | 7 | 6 | 6 | | |
| 50 | 258 | 10 | | | | | | | | |
| 21:00 | 260 | 7 | | | | | | | | |
| 10 | 260 | 9 | 190 | 128 | 108 | 8 | 7 | 6 | 65 | 46 |
| 20 | 268 | 9 | | | | | | | | |
| 30 | 266 | 6 | | | | | | | | |
| 40 | 285 | 6 | 75 | 60 | 50 | 9 | 7 | 6 | | |
| 50 | 270 | 5 | | | | | | | | |
| 22:00 | 230 | 7 | | | | | | | | |
| 10 | 188 | 9 | 190 | 168 | 152 | 11 | 8 | 7 | 63 | 50 |
| 20 | 228 | 5 | | | | | | | | |
| 30 | 208 | 7 | | | | | | | | |
| 40 | 149 | 9 | 182 | 164 | 152 | 7 | 6 | 6 | | |
| 50 | 176 | 6 | | | | | | | | |
| 23:00 | 140 | 7 | | | | | | | | |
| 10 | 140 | 6 | 170 | 155 | 120 | 7 | 6 | 6 | 61 | 56 |
| 20 | 132 | 8 | | | | | | | | |
| 30 | 162 | 6 | | | | | | | | |
| 40 | 183 | 7 | 150 | 130 | 108 | 3 | 2 | 2 | | |
| 24:00 | | | | | | | | | 59 | 65 |

58%

## Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

7 April 1964 — Experiment No. 16 — Tracer Release from 2048 to 2148 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:20 | 308 | 8 | | | | | | | | |
| 30 | 312 | 11 | | | | | | | | |
| 40 | 310 | 11 | | | | | | | | |
| 50 | 308 | 14 | 152 | 112 | 98 | 22 | 17 | 13 | | |
| 21:00 | 318 | 13 | | | | | | | 41 | 59 |
| 10 | 325 | 14 | | | | | | | | |
| 20 | 319 | 13 | 95 | 88 | 75 | 25 | 20 | 14 | | |
| 30 | 320 | 13 | | | | | | | | |
| 40 | 318 | 13 | | | | | | | | |
| 50 | 310 | 12 | 122 | 95 | 75 | 18 | 16 | 13 | | |
| 22:00 | 314 | 13 | | | | | | | 40 | 59 |
| 10 | 315 | 13 | | | | | | | | |
| 20 | 322 | 14 | 118 | 95 | 86 | 21 | 17 | 14 | | |
| 30 | 325 | 14 | | | | | | | | |
| 40 | 322 | 16 | | | | | | | | |
| 50 | 320 | 16 | 105 | 88 | 75 | 20 | 19 | 15 | | |
| 23:00 | 320 | 17 | | | | | | | 39 | 60 |
| 10 | 318 | 16 | | | | | | | | |
| 20 | 312 | 16 | 122 | 109 | 80 | 25 | 22 | 20 | | |
| 30 | 316 | 17 | | | | | | | | |
| 40 | 318 | 14 | | | | | | | | |
| 50 | 315 | 11 | 110 | 92 | 78 | 23 | 22 | 16 | | |
| 24:00 | 315 | 15 | | | | | | | 36 | 60 |

8 April 1964 — Experiment No. 17 — Tracer Release from 2030 to 2130 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:00 | 255 | 4 | | | | | | | 36 | 62 |
| 10 | 252 | 4 | | | | | | | | |
| 20 | 255 | 4 | | | | | | | | |
| 30 | 258 | 4 | 92 | 73 | 65 | 6 | 5 | 4 | | |
| 40 | 260 | 4 | | | | | | | | |
| 50 | 260 | 6 | | | | | | | | |
| 21:00 | 260 | 5 | 102 | 88 | 69 | 7 | 6 | 5 | 36 | 64 |
| 10 | 265 | 6 | | | | | | | | |
| 20 | 263 | 6 | | | | | | | | |
| 30 | 268 | 6 | 135 | 100 | 78 | 12 | 9 | 7 | | |
| 40 | 266 | 7 | | | | | | | | |
| 50 | 264 | 6 | | | | | | | | |
| 22:00 | 265 | 6 | 142 | 105 | 76 | 10 | 8 | 6 | 35 | 65 |
| 10 | 262 | 8 | | | | | | | | |
| 20 | 265 | 10 | | | | | | | | |
| 30 | 270 | 10 | 78 | 62 | 52 | 9 | 7 | 5 | | |
| 40 | 265 | 8 | | | | | | | | |
| 50 | 266 | 9 | | | | | | | | |
| 23:00 | 268 | 8 | 100 | 78 | 61 | 12 | 8 | 7 | 34 | 68 |
| 10 | 270 | 7 | | | | | | | | |
| 20 | 268 | 7 | | | | | | | | |
| 30 | 268 | 8 | 146 | 76 | 58 | 11 | 7 | 5 | | |
| 24:00 | | | | | | | | | 33 | 71 |

# Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

9 April 1964 — Experiment No. 18 — Tracer Release from 2045 to 2145 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:20 | 232 | 4 | | | | | | | | |
| 30 | 235 | 3 | | | | | | | | |
| 40 | 222 | 4 | | | | | | | | |
| 50 | 230 | 3 | 70 | 55 | 42 | 5 | 4 | 3 | | |
| 21:00 | 228 | 3 | | | | | | | 49 | 30 |
| 10 | 218 | 4 | | | | | | | | |
| 20 | 216 | 4 | 50 | 32 | 25 | 5 | 2 | 2 | | |
| 30 | 215 | 4 | | | | | | | | |
| 40 | 212 | 4 | | | | | | | | |
| 50 | 212 | 3 | 42 | 30 | 20 | 5 | 3 | 2 | | |
| 22:00 | 206 | 4 | | | | | | | 49 | 34 |
| 10 | 200 | 6 | | | | | | | | |
| 20 | 205 | 6 | 36 | 24 | 21 | 5 | 3 | 2 | | |
| 30 | 210 | 5 | | | | | | | | |
| 40 | 218 | 4 | | | | | | | | |
| 50 | 216 | 5 | 60 | 45 | 30 | 5 | 4 | 3 | | |
| 23:00 | 218 | 5 | | | | | | | 47 | 36 |
| 10 | 196 | 7 | | | | | | | | |
| 20 | 200 | 7 | 52 | 41 | 30 | 6 | 5 | 3 | | |
| 30 | 195 | 8 | | | | | | | | |
| 40 | 195 | 7 | | | | | | | | |
| 50 | 195 | 8 | 42 | 36 | 29 | 6 | 5 | 4 | | |
| 24:00 | 196 | 8 | | | | | | | 44 | 48 |

2 June 1964 — Experiment No. 19 — Tracer Release from 1030 to 1130 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:00 | 295 | 12 | | | | | | | 68 | 46 |
| 10 | 306 | 12 | | | | | | | | |
| 20 | 295 | 12 | | | | | | | | |
| 30 | 328 | 9 | 192 | 145 | 120 | 18 | 13 | 9 | | |
| 40 | 310 | 10 | | | | | | | | |
| 50 | 316 | 11 | | | | | | | | |
| 11:00 | 330 | 11 | 185 | 142 | 120 | 14 | 10 | 8 | 70 | 42 |
| 10 | 300 | 11 | | | | | | | | |
| 20 | 308 | 13 | | | | | | | | |
| 30 | 318 | 12 | 152 | 132 | 110 | 18 | 14 | 12 | | |
| 40 | 304 | 12 | | | | | | | | |
| 50 | 312 | 12 | | | | | | | | |
| 12:00 | 300 | 12 | 194 | 165 | 135 | 17 | 13 | 10 | 70 | 41 |
| 10 | 302 | 14 | | | | | | | | |
| 20 | 312 | 14 | | | | | | | | |
| 30 | 335 | 14 | 188 | 145 | 115 | 20 | 16 | 12 | | |
| 13:00 | | | | | | | | | 70 | 42 |

3 June 1964 — Experiment No. 20 — Tracer Release from 1040 to 1140 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:20 | 280 | 6 | | | | | | | | |
| 30 | 316 | 7 | | | | | | | | |
| 40 | 304 | 7 | | | | | | | | |
| 50 | 255 | 6 | 242 | 210 | 188 | 11 | 9 | 7 | | |
| 11:00 | 260 | 6 | | | | | | | 69 | 42 |
| 10 | 250 | 5 | | | | | | | | |
| 20 | 305 | 6 | 305 | 232 | 192 | 12 | 10 | 7 | | |
| 30 | 270 | 6 | | | | | | | | |
| 40 | 250 | 8 | | | | | | | | |
| 50 | 275 | 7 | 232 | 180 | 160 | 13 | 12 | 9 | | |
| 12:00 | 255 | 5 | | | | | | | 70 | 40 |
| 10 | 274 | 6 | | | | | | | | |
| 20 | 260 | 7 | 268 | 221 | 206 | 18 | 13 | 10 | | |
| 30 | 240 | 6 | | | | | | | | |
| 40 | 256 | 7 | | | | | | | | |
| 50 | 268 | 6 | 272 | 203 | 178 | 13 | 10 | 9 | | |
| 13:00 | | | | | | | | | 71 | 38 |

## Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

4 June 1964 — Experiment No. 21 — Tracer Release from 1030 to 1130 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:00 | 165 | 6 | | | | | | | 68 | 54 |
| 10 | 162 | 5 | | | | | | | | |
| 20 | 157 | 6 | | | | | | | | |
| 30 | 170 | 5 | 152 | 108 | 77 | 5 | 4 | 4 | | |
| 40 | 142 | 6 | | | | | | | | |
| 50 | 162 | 6 | | | | | | | | |
| 11:00 | 178 | 7 | 168 | 142 | 120 | 8 | 6 | 5 | 72 | 44 |
| 10 | 150 | 8 | | | | | | | | |
| 20 | 163 | 7 | | | | | | | | |
| 30 | 155 | 8 | 152 | 115 | 92 | 8 | 5 | 5 | | |
| 40 | 156 | 7 | | | | | | | | |
| 50 | 168 | 8 | | | | | | | | |
| 12:00 | 150 | 7 | 178 | 138 | 75 | 10 | 9 | 6 | 73 | 40 |
| 10 | 148 | 7 | | | | | | | | |
| 20 | 140 | 8 | | | | | | | | |
| 30 | 124 | 7 | 175 | 130 | 110 | 11 | 8 | 6 | | |
| 13:00 | | | | | | | | | 72 | 39 |

7 June 1964 — Experiment No. 23 — Tracer Release from 1132 to 1232 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 208 | 10 | | | | | | | 81 | 57 |
| 10 | 226 | 8 | | | | | | | | |
| 20 | 245 | 9 | | | | | | | | |
| 30 | 235 | 10 | 182 | 165 | 148 | 17 | 12 | 10 | | |
| 40 | 238 | 9 | | | | | | | | |
| 50 | 252 | 8 | | | | | | | | |
| 12:00 | 251 | 7 | 212 | 185 | 167 | 13 | 12 | 10 | 82 | 56 |
| 10 | 250 | 8 | | | | | | | | |
| 20 | 258 | 8 | | | | | | | | |
| 30 | 238 | 7 | 255 | 142 | 123 | 14 | 11 | 9 | | |
| 40 | 245 | 7 | | | | | | | | |
| 50 | 264 | 6 | | | | | | | | |
| 13:00 | 275 | 5 | 240 | 191 | 165 | 12 | 10 | 7 | 82 | 58 |
| 10 | 270 | 7 | | | | | | | | |
| 20 | 258 | 7 | | | | | | | | |
| 30 | 248 | 8 | 175 | 156 | 142 | 12 | 9 | 7 | | |
| 14:00 | | | | | | | | | 83 | 57 |

6 June 1964 — Experiment No. 22 — Tracer Release from 1130 to 1230 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 188 | 8 | | | | | | | 75 | 63 |
| 10 | 168 | 7 | | | | | | | | |
| 20 | 162 | 9 | | | | | | | | |
| 30 | 173 | 11 | 165 | 132 | 103 | 16 | 13 | 10 | | |
| 40 | 178 | 11 | | | | | | | | |
| 50 | 176 | 10 | | | | | | | | |
| 12:00 | 166 | 9 | 145 | 116 | 81 | 12 | 8 | 6 | 77 | 72 |
| 10 | 178 | 10 | | | | | | | | |
| 20 | 192 | 8 | | | | | | | | |
| 30 | 191 | 7 | 134 | 106 | 88 | 13 | 9 | 6 | | |
| 40 | 216 | 7 | | | | | | | | |
| 50 | 176 | 10 | | | | | | | | |
| 13:00 | 183 | 9 | 207 | 156 | 118 | 13 | 10 | 7 | 78 | 66 |
| 10 | 186 | 5 | | | | | | | | |
| 20 | 222 | 5 | | | | | | | | |
| 30 | 182 | 8 | 158 | 140 | 116 | 12 | 9 | 6 | | |
| 14:00 | | | | | | | | | 79 | 62 |

9 June 1964 — Experiment No. 24 — Tracer Release from 1030 to 1130 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:00 | 215 | 15 | | | | | | | 82 | 64 |
| 10 | 117 | 13 | | | | | | | | |
| 20 | 218 | 16 | | | | | | | | |
| 30 | 218 | 14 | 178 | 150 | 112 | 24 | 19 | 15 | | |
| 40 | 212 | 15 | | | | | | | | |
| 50 | 221 | 13 | | | | | | | | |
| 11:00 | 210 | 15 | 150 | 122 | 105 | 22 | 18 | 16 | 84 | 60 |
| 10 | 217 | 15 | | | | | | | | |
| 20 | 218 | 16 | | | | | | | | |
| 30 | 210 | 15 | 182 | 129 | 108 | 20 | 17 | 15 | | |
| 40 | 202 | 17 | | | | | | | | |
| 50 | 210 | 15 | | | | | | | | |
| 12:00 | 204 | 17 | 134 | 120 | 94 | 16 | 14 | 86 | 59 | |
| 10 | 210 | 18 | | | | | | | | |
| 20 | 221 | 11 | | | | | | | | |
| 30 | 225 | 12 | 220 | 136 | 118 | 24 | 21 | 18 | | |
| 13:00 | | | | | | | | | 87 | 59 |

# Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

10 June 1964 Experiment No. 25 Tracer Release from 1033 to 1133 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:00 | 312 | 7 | | | | | | | 75 | 62 |
| 10 | 312 | 6 | | | | | | | | |
| 20 | 346 | 6 | | | | | | | | |
| 30 | 319 | 6 | 165 | 142 | 130 | 11 | 9 | 8 | | |
| 40 | 310 | 4 | | | | | | | | |
| 50 | 332 | 4 | | | | | | | | |
| 11:00 | 318 | 5 | 252 | 195 | 152 | 9 | 6 | 6 | 78 | 58 |
| 10 | 353 | 6 | | | | | | | | |
| 20 | 344 | 5 | | | | | | | | |
| 30 | 012 | 8 | 180 | 151 | 132 | 10 | 7 | 6 | | |
| 40 | 008 | 6 | | | | | | | | |
| 50 | 333 | 6 | | | | | | | | |
| 12:00 | 312 | 7 | 232 | 168 | 148 | 11 | 8 | 6 | 79 | 56 |
| 10 | 297 | 7 | | | | | | | | |
| 20 | 302 | 7 | | | | | | | | |
| 30 | 334 | 7 | 220 | 164 | 135 | 13 | 10 | 6 | | |
| 13:00 | | | | | | | | | 81 | 52 |

11 June 1964 Experiment No. 26 Tracer Release from 1035 to 1135 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:00 | 95 | 8 | | | | | | | 76 | 64 |
| 10 | 105 | 8 | | | | | | | | |
| 20 | 102 | 12 | | | | | | | | |
| 30 | 90 | 11 | 192 | 142 | 108 | 17 | 13 | 9 | | |
| 40 | 93 | 13 | | | | | | | | |
| 50 | 95 | 12 | | | | | | | | |
| 11:00 | 102 | 11 | 200 | 139 | 110 | 18 | 15 | 11 | 78 | 62 |
| 10 | 123 | 11 | | | | | | | | |
| 20 | 150 | 8 | | | | | | | | |
| 30 | 155 | 7 | 245 | 146 | 132 | 16 | 12 | 8 | | |
| 40 | 178 | 6 | | | | | | | | |
| 50 | 152 | 6 | | | | | | | | |
| 12:00 | 140 | 5 | 185 | 156 | 132 | 10 | 7 | 5 | 80 | 60 |
| 10 | 176 | 7 | | | | | | | | |
| 20 | 180 | 9 | | | | | | | | |
| 30 | 158 | 7 | 132 | 115 | 100 | 10 | 8 | 6 | | |
| 13:00 | | | | | | | | | 83 | 58 |

10 October 1964 Experiment No. 27 Tracer Release from 1130 to 1230 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 047 | 6 | | | | | | | 51 | 46 |
| 10 | 055 | 6 | | | | | | | | |
| 20 | 040 | 5 | | | | | | | | |
| 30 | 062 | 9 | 280 | 248 | 124 | 13 | 10 | 8 | | |
| 40 | 063 | 8 | | | | | | | | |
| 50 | 075 | 5 | | | | | | | | |
| 12:00 | 100 | 7 | 175 | 142 | 122 | 13 | 9 | 6 | 53 | 41 |
| 10 | 032 | 9 | | | | | | | | |
| 20 | 030 | 7 | | | | | | | | |
| 30 | 096 | 5 | 196 | 145 | 123 | 10 | 8 | 6 | | |
| 40 | 358 | 5 | | | | | | | | |
| 50 | 068 | 6 | | | | | | | | |
| 13:00 | 090 | 4 | 205 | 167 | 135 | 10 | 7 | 5 | 55 | 39 |
| 10 | 060 | 6 | | | | | | | | |
| 20 | 342 | 6 | | | | | | | | |
| 30 | 012 | 5 | 165 | 121 | 98 | 11 | 7 | 6 | | |
| 14:00 | | | | | | | | | 56 | 38 |

11 October 1964 Experiment No. 28 Tracer Release from 1105 to 1205 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:30 | 160 | 12 | | | | | | | | |
| 40 | 157 | 13 | | | | | | | | |
| 50 | 158 | 11 | | | | | | | | |
| 11:00 | 165 | 11 | 170 | 122 | 102 | 16 | 14 | 12 | 55 | 43 |
| 10 | 161 | 9 | | | | | | | | |
| 20 | 142 | 11 | | | | | | | | |
| 30 | 153 | 11 | 235 | 189 | 142 | 15 | 13 | 10 | | |
| 40 | 140 | 10 | | | | | | | | |
| 50 | 135 | 12 | | | | | | | | |
| 12:00 | 145 | 10 | 225 | 180 | 132 | 18 | 15 | 13 | 57 | 41 |
| 10 | 130 | 12 | | | | | | | | |
| 20 | 142 | 11 | | | | | | | | |
| 30 | 162 | 11 | 239 | 152 | 134 | 15 | 13 | 10 | | |
| 40 | 148 | 10 | | | | | | | | |
| 50 | 163 | 10 | | | | | | | | |
| 13:00 | 167 | 10 | 205 | 146 | 103 | 16 | 14 | 11 | 60 | 38 |

## Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

12 October 1964 — Experiment No. 29 — Tracer Release from 2000 to 2100 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 19:30 | 352 | 6 | | | | | | | | |
| 40 | 332 | 7 | | | | | | | | |
| 50 | 338 | 6 | | | | | | | | |
| 20:00 | 341 | 6 | 71 | 55 | 42 | 4 | 3 | 2 | 56 | 77 |
| 10 | 358 | 7 | | | | | | | | |
| 20 | 360 | 7 | | | | | | | | |
| 30 | 360 | 7 | 49 | 36 | 29 | 3 | 2 | 2 | | |
| 40 | 360 | 7 | | | | | | | | |
| 50 | 030 | 6 | | | | | | | | |
| 21:00 | 018 | 6 | 62 | 51 | 40 | 4 | 2 | 2 | 55 | 82 |
| 10 | 016 | 7 | | | | | | | | |
| 20 | 014 | 7 | | | | | | | | |
| 30 | 015 | 6 | 60 | 32 | 30 | 3 | 3 | 2 | | |
| 40 | 348 | 6 | | | | | | | | |
| 50 | 352 | 7 | | | | | | | | |
| 22:00 | 370 | 7 | 65 | 55 | 47 | 4 | 3 | 2 | 54 | 84 |
| 10 | 012 | 7 | | | | | | | | |
| 20 | 008 | 6 | | | | | | | | |
| 30 | 002 | 6 | 48 | 36 | 30 | 3 | 2 | <2 | | |
| 40 | 018 | 7 | | | | | | | | |
| 50 | 031 | 5 | | | | | | | | |
| 23:00 | 035 | 5 | 50 | 39 | 26 | 3 | 2 | 2 | 53 | 90 |

16 October 1964 — Experiment No. 30 — Tracer Release from 2000 to 2100 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 19:30 | 180 | 8 | | | | | | | | |
| 40 | 178 | 8 | | | | | | | | |
| 50 | 172 | 8 | | | | | | | | |
| 20:00 | 171 | 8 | 16 | - | - | 2 | <2 | <2 | 64 | 48 |
| 10 | 180 | 8 | | | | | | | | |
| 20 | 185 | 8 | | | | | | | | |
| 30 | 196 | 8 | 34 | - | - | 2 | <2 | <2 | | |
| 40 | 208 | 8 | | | | | | | | |
| 50 | 216 | 8 | | | | | | | | |
| 21:00 | 214 | 8 | 38 | 29 | 16 | 2 | <2 | <2 | 63 | 90 |
| 10 | 215 | 8 | | | | | | | | |
| 20 | 203 | 8 | | | | | | | | |
| 30 | 208 | 9 | 27 | 17 | 11 | 2 | <2 | <2 | | |
| 40 | 205 | 9 | | | | | | | | |
| 50 | 205 | 9 | | | | | | | | |
| 22:00 | 206 | 8 | 30 | 19 | 12 | 2 | <2 | <2 | 60 | 94 |
| 10 | 200 | 9 | | | | | | | | |
| 20 | 198 | 10 | | | | | | | | |
| 30 | 200 | 10 | 21 | 12 | 10 | 3 | <2 | <2 | | |
| 40 | 210 | 9 | | | | | | | | |
| 50 | 210 | 9 | | | | | | | | |
| 23:00 | 195 | 9 | 32 | 20 | 15 | 2 | <2 | <2 | 59 | 96 |

# Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

17 October 1964 — Experiment No. 31 — Tracer Release from 1315 to 1415 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 12:50 | 160 | 14 | | | | | | | | |
| 13:00 | 162 | 13 | | | | | | | 83 | 34 |
| 10 | 190 | 15 | | | | | | | | |
| 20 | 184 | 14 | 132 | 102 | 93 | 13 | 10 | 8 | | |
| 30 | 168 | 14 | | | | | | | | |
| 40 | 165 | 13 | | | | | | | | |
| 50 | 160 | 13 | 137 | 99 | 86 | 15 | 13 | 10 | | |
| 14:00 | 172 | 12 | | | | | | | 84 | 34 |
| 10 | 188 | 15 | | | | | | | | |
| 20 | 170 | 14 | 150 | 102 | 88 | 15 | 13 | 10 | | |
| 30 | 178 | 14 | | | | | | | | |
| 40 | 168 | 13 | | | | | | | | |
| 50 | 162 | 13 | 112 | 83 | 68 | 14 | 12 | 10 | | |
| 15:00 | 166 | 14 | | | | | | | 83 | 34 |
| 10 | 150 | 13 | | | | | | | | |
| 20 | 171 | 13 | 152 | 104 | 82 | 15 | 13 | 12 | | |
| 16:05 | | | | | | | | | 82 | 36 |

19 October 1964 — Experiment No. 32 — Tracer Release from 1945 to 2045 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 19:10 | 360 | 10 | | | | | | | | |
| 20 | 135 | 9 | | | | | | | | |
| 30 | 326 | 13 | | | | | | | | |
| 40 | 313 | 11 | 133 | 106 | 82 | 15 | 11 | 8 | | |
| 50 | 338 | 11 | | | | | | | | |
| 20:00 | 352 | 10 | | | | | | | 48 | 53 |
| 10 | 342 | 12 | 118 | 98 | 72 | 10 | 6 | 5 | | |
| 20 | 343 | 11 | | | | | | | | |
| 30 | 351 | 11 | | | | | | | | |
| 40 | 343 | 13 | 116 | 88 | 72 | 12 | 8 | 7 | | |
| 50 | 346 | 10 | | | | | | | | |
| 21:00 | 340 | 11 | | | | | | | 47 | 58 |
| 10 | 348 | 10 | 116 | 94 | 81 | 11 | 8 | 6 | | |
| 20 | 348 | 8 | | | | | | | | |
| 30 | 330 | 10 | | | | | | | | |
| 40 | 328 | 10 | 105 | 78 | 62 | 8 | 5 | 4 | | |
| 50 | 315 | 8 | | | | | | | | |
| 22:00 | 313 | 10 | | | | | | | 45 | 66 |
| 10 | 317 | 8 | 91 | 58 | 50 | 5 | 4 | 3 | | |
| 20 | 319 | 9 | | | | | | | | |
| 30 | 314 | 10 | | | | | | | | |
| 40 | 315 | 10 | 68 | 48 | 35 | 5 | 3 | 2 | | |
| 23:00 | | | | | | | | | 42 | 76 |

20 October 1964 — Experiment No. 33 — Tracer Release from 1915 to 2015 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 18:40 | 200 | 10 | | | | | | | | |
| 50 | 202 | 11 | | | | | | | | |
| 19:00 | 208 | 11 | | | | | | | 50 | 35 |
| 10 | 206 | 12 | 37 | 31 | 25 | 4 | 3 | 2 | | |
| 20 | 212 | 12 | | | | | | | | |
| 30 | 217 | 12 | | | | | | | | |
| 40 | 213 | 13 | 71 | 62 | 52 | 7 | 6 | 4 | | |
| 50 | 214 | 13 | | | | | | | | |
| 20:00 | 210 | 13 | | | | | | | 50 | 36 |
| 10 | 208 | 13 | 78 | 56 | 42 | 6 | 6 | 4 | | |
| 20 | 207 | 15 | | | | | | | | |
| 30 | 202 | 15 | | | | | | | | |
| 40 | 204 | 15 | 49 | 42 | 33 | 7 | 6 | 4 | | |
| 50 | 198 | 13 | | | | | | | | |
| 21:00 | 200 | 12 | | | | | | | 48 | 37 |
| 10 | 202 | 12 | 58 | 45 | 40 | 5 | 5 | 4 | | |
| 20 | 200 | 13 | | | | | | | | |
| 30 | 198 | 13 | | | | | | | | |
| 40 | 205 | 12 | 80 | 62 | 48 | 8 | 6 | 5 | | |
| 50 | 201 | 12 | | | | | | | | |
| 22:00 | 200 | 12 | | | | | | | 47 | 40 |
| 10 | 210 | 12 | 62 | 52 | 41 | 5 | 4 | 4 | | |

# Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

21 October 1964 — Experiment No. 34 — Tracer Release from 1900 to 2000 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 18:50 | 010 | 12 | | | | | | | | |
| 40 | 008 | 13 | | | | | | | | |
| 50 | 012 | 12 | | | | | | | | |
| 19:00 | 015 | 12 | 95 | 73 | 62 | 11 | 8 | 6 | 60 | 33 |
| 10 | 018 | 13 | | | | | | | | |
| 20 | 018 | 14 | | | | | | | | |
| 30 | 018 | 14 | 89 | 75 | 66 | 15 | 11 | 9 | | |
| 40 | 019 | 13 | | | | | | | | |
| 50 | 025 | 13 | | | | | | | | |
| 20:00 | 015 | 14 | 92 | 74 | 62 | 12 | 9 | 7 | 57 | 35 |
| 10 | 020 | 15 | | | | | | | | |
| 20 | 019 | 14 | | | | | | | | |
| 30 | 021 | 13 | 85 | 76 | 63 | 13 | 9 | 7 | | |
| 40 | 020 | 15 | | | | | | | | |
| 50 | 024 | 14 | | | | | | | | |
| 21:00 | 030 | 13 | 92 | 88 | 75 | 15 | 12 | 9 | 54 | 37 |
| 10 | 028 | 12 | | | | | | | | |
| 20 | 028 | 12 | | | | | | | | |
| 30 | 038 | 12 | 83 | 68 | 58 | 13 | 9 | 6 | | |
| 40 | 039 | 11 | | | | | | | | |
| 50 | 030 | 11 | | | | | | | | |
| 22:00 | 030 | 11 | 71 | 57 | 48 | 8 | 6 | 5 | 51 | 39 |

6 March 1965 — Experiment No. 35 — Tracer Release from 1230 to 1330 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 35 | 71 |
| 12:00 | 310 | 15 | | | | | | | | |
| 10 | 312 | 16 | | | | | | | | |
| 20 | 314 | 15 | | | | | | | | |
| 30 | 308 | 15 | 126 | 92 | 70 | 15 | 13 | 12 | | |
| 40 | 309 | 13 | | | | | | | | |
| 50 | 305 | 15 | | | | | | | | |
| 13:00 | 300 | 17 | 122 | 89 | 70 | 18 | 16 | 14 | 35 | 71 |
| 10 | 308 | 15 | | | | | | | | |
| 20 | 304 | 16 | | | | | | | | |
| 30 | 302 | 18 | 104 | 85 | 71 | 20 | 16 | 13 | | |
| 40 | 305 | 16 | | | | | | | | |
| 50 | 304 | 16 | | | | | | | | |
| 14:00 | 290 | 12 | 175 | 115 | 105 | 22 | 17 | 14 | 35 | 69 |
| 10 | 292 | 16 | | | | | | | | |
| 20 | 290 | 15 | | | | | | | | |
| 30 | 293 | 16 | 82 | 75 | 52 | 16 | 14 | 10 | | |
| 15:00 | | | | | | | | | 34 | 64 |

7 March 1965 — Experiment No. 36 — Tracer Release from 1230 to 1330 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 36 | 80 |
| 12:00 | 348 | 10 | | | | | | | | |
| 10 | 338 | 10 | | | | | | | | |
| 20 | 343 | 10 | | | | | | | | |
| 30 | 352 | 10 | 110 | 92 | 72 | 10 | 8 | 6 | | |
| 40 | 352 | 10 | | | | | | | | |
| 50 | 338 | 11 | | | | | | | | |
| 13:00 | 330 | 10 | 120 | 92 | 77 | 12 | 10 | 8 | 36 | 76 |
| 10 | 334 | 10 | | | | | | | | |
| 20 | 328 | 11 | | | | | | | | |
| 30 | 330 | 10 | 100 | 85 | 68 | 12 | 9 | 7 | | |
| 40 | 332 | 10 | | | | | | | | |
| 50 | 338 | 11 | | | | | | | | |
| 14:00 | 330 | 11 | 118 | 94 | 80 | 14 | 11 | 8 | 36 | 74 |
| 10 | 332 | 12 | | | | | | | | |
| 20 | 318 | 12 | | | | | | | | |
| 30 | 327 | 13 | 102 | 88 | 70 | 16 | 12 | 8 | | |
| 15:00 | | | | | | | | | 36 | 75 |

## Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

8 March 1965 — Experiment No. 37 — Tracer Release from 2030 to 2130CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:00 | 303 | 16 | | | | | | | 40 | 70 |
| 10 | 298 | 14 | | | | | | | | |
| 20 | 304 | 15 | | | | | | | | |
| 30 | 300 | 12 | 134 | 70 | 55 | 20 | 14 | 10 | | |
| 40 | 294 | 12 | | | | | | | | |
| 50 | 296 | 10 | | | | | | | | |
| 21:00 | 296 | 10 | 95 | 60 | 51 | 13 | 10 | 6 | 38 | 75 |
| 10 | 297 | 9 | | | | | | | | |
| 20 | 298 | 9 | | | | | | | | |
| 30 | 290 | 8 | 95 | 66 | 52 | 6 | 6 | 4 | | |
| 40 | 293 | 8 | | | | | | | | |
| 50 | 296 | 11 | | | | | | | | |
| 22:00 | 295 | 10 | 110 | 89 | 72 | 13 | 9 | 6 | 39 | 70 |
| 10 | 304 | 11 | | | | | | | | |
| 20 | 309 | 13 | | | | | | | | |
| 30 | 306 | 14 | 93 | 70 | 52 | 20 | 12 | 8 | | |
| 40 | 306 | 14 | | | | | | | | |
| 50 | 308 | 13 | | | | | | | | |
| 23:00 | 310 | 15 | 102 | 65 | 50 | 20 | 12 | 8 | 39 | 70 |
| 10 | 310 | 13 | | | | | | | | |
| 20 | 302 | 11 | | | | | | | | |
| 30 | 300 | 12 | 90 | 78 | 62 | 19 | 13 | 10 | | |
| 24:00 | | | | | | | | | 35 | 76 |

11 March 1965 — Experiment No. 38 — Tracer Release from 2030 to 2130 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:00 | 240 | 4 | | | | | | | 41 | 48 |
| 10 | 242 | 5 | | | | | | | | |
| 20 | 254 | 5 | | | | | | | | |
| 30 | 272 | 4 | 46 | - | - | 3 | <2 | <2 | | |
| 40 | 280 | 5 | | | | | | | | |
| 50 | 290 | 6 | | | | | | | | |
| 21:00 | 296 | 7 | 45 | 34 | 21 | 4 | 2 | <2 | 39 | 47 |
| 10 | 300 | 7 | | | | | | | | |
| 20 | 308 | 7 | | | | | | | | |
| 30 | 322 | 7 | 65 | 57 | 43 | 6 | 5 | 3 | | |
| 40 | 338 | 6 | | | | | | | | |
| 50 | 342 | 6 | | | | | | | | |
| 22:00 | 345 | 6 | 82 | 60 | 52 | 4 | 3 | 3 | 40 | 48 |
| 10 | 345 | 6 | | | | | | | | |
| 20 | 345 | 6 | | | | | | | | |
| 30 | 341 | 5 | 91 | 64 | 52 | 5 | 4 | 3 | | |
| 40 | 353 | 5 | | | | | | | | |
| 50 | 348 | 6 | | | | | | | | |
| 23:00 | 346 | 6 | 65 | 32 | 22 | 5 | 4 | 3 | 41 | 39 |
| 10 | 352 | 5 | | | | | | | | |
| 20 | 356 | 4 | | | | | | | | |
| 30 | 354 | 5 | 72 | 43 | 25 | 4 | 3 | 3 | | |
| 24:00 | | | | | | | | | 41 | 56 |

# Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

13 March 1965 — Experiment No. 39 — Tracer Release from 1220 to 1320 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11:50 | 310 | 5 | | | | | | | | |
| 12:00 | 292 | 5 | | | | | | | 43 | 32 |
| 10 | 270 | 5 | | | | | | | | |
| 20 | 328 | 5 | 290 | 245 | 220 | 9 | 6 | 5 | | |
| 30 | 340 | 6 | | | | | | | | |
| 40 | 312 | 6 | | | | | | | | |
| 50 | 322 | 6 | 248 | 215 | 188 | 10 | 8 | 5 | | |
| 13:00 | 282 | 8 | | | | | | | 46 | 26 |
| 10 | 156 | 4 | | | | | | | | |
| 20 | 302 | 6 | 319 | 284 | 241 | 10 | 9 | 7 | | |
| 30 | 254 | 4 | | | | | | | | |
| 40 | 245 | 6 | | | | | | | | |
| 50 | 270 | 5 | 276 | 234 | 204 | 8 | 7 | 6 | | |
| 14:00 | 178 | 4 | | | | | | | 48 | 24 |
| 10 | 240 | 4 | | | | | | | | |
| 20 | 210 | 5 | 320 | 292 | 239 | 10 | 8 | 6 | | |

14 March 1965 — Experiment No. 40 — Tracer Release from 1100 to 1200 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:30 | 315 | 16 | | | | | | | | |
| 40 | 306 | 13 | | | | | | | | |
| 50 | 318 | 13 | | | | | | | | |
| 11:00 | 320 | 14 | 130 | 116 | 96 | 17 | 14 | 11 | 41 | 46 |
| 10 | 300 | 12 | | | | | | | | |
| 20 | 314 | 13 | | | | | | | | |
| 30 | 328 | 15 | 153 | 132 | 105 | 20 | 16 | 14 | | |
| 40 | 329 | 14 | | | | | | | | |
| 50 | 312 | 14 | | | | | | | | |
| 12:00 | 313 | 14 | 182 | 108 | 84 | 20 | 16 | 13 | 44 | 36 |
| 10 | 307 | 18 | | | | | | | | |
| 20 | 309 | 16 | | | | | | | | |
| 30 | 315 | 16 | 162 | 130 | 109 | 27 | 19 | 16 | | |
| 40 | 325 | 16 | | | | | | | | |
| 50 | 314 | 18 | | | | | | | | |
| 13:00 | 308 | 16 | 125 | 108 | 88 | 16 | 18 | 16 | 46 | 36 |

15 March 1965 — Experiment No. 41 — Tracer Release from 2050 to 2150 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:20 | 352 | 5 | | | | | | | | |
| 30 | 358 | 5 | | | | | | | | |
| 40 | 360 | 5 | | | | | | | | |
| 50 | 003 | 4 | 46 | 26 | 22 | 4 | 2 | <2 | | |
| 21:00 | 012 | 4 | | | | | | | 46 | 45 |
| 10 | 015 | 6 | | | | | | | | |
| 20 | 002 | 5 | 27 | 16 | 12 | 3 | 2 | <2 | | |
| 30 | 008 | 5 | | | | | | | | |
| 40 | 005 | 6 | | | | | | | | |
| 50 | 009 | 7 | 18 | 10 | 6 | 3 | <2 | <2 | | |
| 22:00 | 012 | 7 | | | | | | | 45 | 50 |
| 10 | 011 | 7 | | | | | | | | |
| 20 | 018 | 6 | 30 | 16 | 15 | 3 | 2 | <2 | | |
| 30 | 015 | 6 | | | | | | | | |
| 40 | 015 | 7 | | | | | | | | |
| 50 | 018 | 6 | 45 | 22 | 18 | 3 | 2 | <2 | | |
| 23:00 | 015 | 6 | | | | | | | 43 | 54 |
| 10 | 090 | 2 | | | | | | | | |
| 20 | 062 | 2 | 80 | - | - | 5 | <2 | <2 | | |
| 30 | 005 | 3 | | | | | | | | |
| 40 | 015 | 6 | | | | | | | | |
| 50 | 035 | 5 | 33 | 22 | 16 | 4 | <2 | <2 | | |
| 24:00 | | | | | | | | | 42 | 62 |

# Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

16 March 1965 — Experiment No. 42 — Tracer Release from 2030 to 2130 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:00 | 120 | 13 | | | | | | | 60 | 57 |
| 10 | 123 | 11 | | | | | | | | |
| 20 | 122 | 13 | | | | | | | | |
| 30 | 123 | 12 | 122 | 102 | 140 | 17 | 13 | 11 | | |
| 40 | 120 | 14 | | | | | | | | |
| 50 | 119 | 12 | | | | | | | | |
| 21:00 | 122 | 14 | 138 | 111 | 89 | 17 | 14 | 11 | 57 | 65 |
| 10 | 130 | 14 | | | | | | | | |
| 20 | 140 | 15 | | | | | | | | |
| 30 | 143 | 16 | 160 | 113 | 98 | 21 | 18 | 14 | | |
| 40 | 144 | 17 | | | | | | | | |
| 50 | 142 | 18 | | | | | | | | |
| 22:00 | 146 | 19 | 149 | 115 | 104 | 24 | 20 | 17 | 56 | 55 |
| 10 | 142 | 19 | | | | | | | | |
| 20 | 138 | 18 | | | | | | | | |
| 30 | 132 | 19 | 129 | 114 | 110 | 23 | 20 | 17 | | |
| 40 | 135 | 21 | | | | | | | | |
| 50 | 142 | 20 | | | | | | | | |
| 23:00 | 145 | 21 | 125 | 108 | 95 | 29 | 23 | 18 | 57 | 73 |
| 10 | 146 | 21 | | | | | | | | |
| 20 | 146 | 18 | | | | | | | | |
| 30 | 152 | 21 | 140 | 128 | 110 | 22 | 20 | 17 | | |
| 24:00 | | | | | | | | | 57 | 74 |

17 March 1965 — Experiment No. 43 — Tracer Release from 2000 to 2100 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 19:30 | 288 | 25 | | | | | | | | |
| 40 | 292 | 24 | | | | | | | | |
| 50 | 289 | 20 | | | | | | | | |
| 20:00 | 285 | 23 | 172 | 115 | 97 | 36 | 28 | 23 | 32 | 60 |
| 10 | 298 | 20 | | | | | | | | |
| 20 | 295 | 19 | | | | | | | | |
| 30 | 292 | 16 | 140 | 107 | 90 | 29 | 23 | 18 | | |
| 40 | 282 | 18 | | | | | | | | |
| 50 | 290 | 24 | | | | | | | | |
| 21:00 | 290 | 24 | 168 | 115 | 83 | 41 | 34 | 27 | 31 | 61 |
| 10 | 308 | 24 | | | | | | | | |
| 20 | 295 | 18 | | | | | | | | |
| 30 | 304 | 21 | 122 | 102 | 88 | 28 | 24 | 20 | | |
| 40 | 296 | 26 | | | | | | | | |
| 50 | 296 | 22 | | | | | | | | |
| 22:00 | 298 | 24 | 148 | 105 | 88 | 28 | 25 | 21 | 27 | 65 |
| 10 | 300 | 23 | | | | | | | | |
| 20 | 296 | 19 | | | | | | | | |
| 30 | 290 | 17 | 112 | 92 | 78 | 20 | 17 | 13 | | |
| 40 | 285 | 19 | | | | | | | | |
| 50 | 282 | 16 | | | | | | | | |
| 23:00 | 285 | 14 | 128 | 107 | 74 | 21 | 18 | 15 | 26 | 66 |

BLANK PAGE

TABLE 16. METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

Symbols

D(deg): Surface wind direction in whole degrees of azimuth

S(mph): Surface wind speed in whole miles per hour

Direction Range 1, 3, and 5: The first, third, and fifth highest wind direction ranges in whole degrees of azimuth

Speed Range 1, 3, and 5: The first, third, and fifth highest wind speed ranges in whole miles per hour

T(°F) : Temperature in whole degrees Fahrenheit

RH(%) : Relative humidity in whole percent

C : Calm - Wind speed less than threshold speed of the instrument

- : Missing Data; for wind direction ranges, data either missing or undefined.

Preceding page blank

# Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

27 May 1963 — Experiment No. 2 — Tracer Release From 1410 to 1440 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 13:30 | 325 | 12 | | | | | | | | |
| 40 | 325 | 10 | | | | | | | | |
| 50 | 327 | 11 | | | | | | | | |
| 14:00 | 308 | 15 | 105 | 76 | 63 | 18 | 15 | 14 | 70 | 84 |
| 10 | 312 | 14 | | | | | | | | |
| 20 | 312 | 13 | | | | | | | | |
| 30 | 320 | 10 | 84 | 60 | 55 | 15 | 13 | 10 | | |
| 40 | 300 | 11 | | | | | | | | |
| 50 | 316 | 12 | | | | | | | | |
| 15:00 | 295 | 12 | 1[illegible] | 122 | 82 | 18 | 15 | 12 | 72 | 72 |
| 10 | 304 | 12 | | | | | | | | |
| 20 | 308 | 14 | | | | | | | | |
| 30 | 292 | 14 | 100 | 82 | 78 | 15 | 13 | 12 | | |
| 40 | 295 | 12 | | | | | | | | |
| 50 | 300 | 12 | | | | | | | | |
| 16:00 | 306 | 13 | 108 | 73 | 64 | 15 | 12 | 11 | 73 | 62 |

28 May 1963 — Experiment No. 3 — Tracer Release from 1000 to 1100 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 9:30 | 298 | 16 | | | | | | | | |
| 40 | 295 | 15 | | | | | | | | |
| 50 | 305 | 14 | | | | | | | | |
| 10:00 | 295 | 12 | 78 | 62 | 58 | 15 | 13 | 12 | 67 | 65 |
| 10 | 282 | 14 | | | | | | | | |
| 20 | 292 | 14 | | | | | | | | |
| 30 | 286 | 12 | 135 | 90 | 68 | 19 | 15 | 12 | | |
| 40 | 292 | 11 | | | | | | | | |
| 50 | 275 | 12 | | | | | | | | |
| 11:00 | 290 | 12 | 130 | 79 | 65 | 14 | 10 | 10 | 68 | 69 |
| 10 | 292 | 13 | | | | | | | | |
| 20 | 305 | 13 | | | | | | | | |
| 30 | 321 | 12 | 88 | 70 | 50 | 18 | 14 | 10 | | |
| 40 | 304 | 13 | | | | | | | | |
| 50 | 305 | 12 | | | | | | | | |
| 12:00 | 300 | 8 | 83 | 74 | 60 | 14 | 11 | 10 | 68 | 67 |

19 July 1963 — Experiment No. 4 — Tracer Release from 1130 to 1230 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 223 | 14 | | | | | | | 90 | 55 |
| 10 | 232 | 15 | | | | | | | | |
| 20 | 226 | 15 | | | | | | | | |
| 30 | 223 | 16 | 82 | 65 | 60 | 17 | 14 | 12 | | |
| 40 | 236 | 17 | | | | | | | | |
| 50 | 228 | 17 | | | | | | | | |
| 12:00 | 220 | 16 | 110 | 83 | 70 | 19 | 15 | 13 | 91 | 53 |
| 10 | 228 | 17 | | | | | | | | |
| 20 | 240 | 17 | | | | | | | | |
| 30 | 248 | 19 | 115 | 92 | 80 | 20 | 17 | 13 | | |
| 40 | 232 | 18 | | | | | | | | |
| 50 | 235 | 20 | | | | | | | | |
| 13:00 | 240 | 19 | 113 | 70 | 60 | 18 | 16 | 14 | 92 | 51 |
| 10 | 235 | 17 | | | | | | | | |
| 20 | 232 | 17 | | | | | | | | |
| 30 | 222 | 19 | 112 | 95 | 78 | 20 | 16 | 12 | | |
| 14:00 | | | | | | | | | 94 | 47 |

22 July 1963 — Experiment No. 5 — Tracer Release from 1104 to 1204 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:30 | 195 | 12 | | | | | | | | |
| 40 | 200 | 14 | | | | | | | | |
| 50 | 210 | 13 | | | | | | | | |
| 11:00 | 210 | 13 | 83 | 72 | 63 | 12 | 10 | 9 | 85 | 48 |
| 10 | 216 | 12 | | | | | | | | |
| 20 | 223 | 11 | | | | | | | | |
| 30 | 208 | 10 | 100 | 88 | 78 | 10 | 8 | 7 | | |
| 40 | 204 | 8 | | | | | | | | |
| 50 | 183 | 11 | | | | | | | | |
| 12:00 | 215 | 9 | 98 | 83 | 72 | 14 | 12 | 10 | 87 | 46 |
| 10 | 186 | 10 | | | | | | | | |
| 20 | 174 | 10 | | | | | | | | |
| 30 | 160 | 8 | 210 | 115 | 90 | 15 | 12 | 10 | | |
| 40 | 186 | 10 | | | | | | | | |
| 50 | 150 | 10 | | | | | | | | |
| 13:00 | 145 | 12 | 150 | 123 | 96 | 16 | 12 | 10 | 89 | 45 |

# Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

23 July 1963 Experiment No. 6 Tracer Release from 1130 to 1230 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 132 | 11 | | | | | | | 85 | 58 |
| 10 | 135 | 9 | | | | | | | | |
| 20 | 155 | 10 | | | | | | | | |
| 30 | 128 | 12 | 135 | 102 | 86 | 15 | 10 | 9 | | |
| 40 | 147 | 10 | | | | | | | | |
| 50 | 112 | 10 | | | | | | | | |
| 12:00 | 122 | 10 | 128 | 120 | 100 | 15 | 12 | 10 | 87 | 52 |
| 10 | 145 | 11 | | | | | | | | |
| 20 | 125 | 11 | | | | | | | | |
| 30 | 135 | 11 | 108 | 90 | 76 | 14 | 10 | 9 | | |
| 40 | 120 | 9 | | | | | | | | |
| 50 | 125 | 9 | | | | | | | | |
| 13:00 | 140 | 8 | 120 | 103 | 88 | 14 | 10 | 9 | 88 | 48 |
| 10 | 120 | 8 | | | | | | | | |
| 20 | 120 | 10 | | | | | | | | |
| 30 | 90 | 12 | 112 | 92 | 80 | 15 | 12 | 10 | | |
| 14:00 | | | | | | | | | 88 | 46 |

25 July 1963 Experiment No. 7 Tracer Release from 1040 to 1140 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:10 | 160 | 10 | | | | | | | | |
| 20 | 170 | 11 | | | | | | | | |
| 30 | 168 | 12 | | | | | | | | |
| 40 | 164 | 13 | 126 | 88 | 70 | 18 | 12 | 9 | | |
| 50 | 159 | 14 | | | | | | | | |
| 11:00 | 166 | 15 | | | | | | | 84 | 52 |
| 10 | 148 | 13 | 95 | 79 | 65 | 14 | 11 | 9 | | |
| 20 | 145 | 12 | | | | | | | | |
| 30 | 155 | 12 | | | | | | | | |
| 40 | 138 | 15 | 105 | 90 | 73 | 15 | 13 | 11 | | |
| 50 | 130 | 12 | | | | | | | | |
| 12:00 | 154 | 14 | | | | | | | 85 | 48 |
| 10 | 155 | 13 | 122 | 92 | 79 | 14 | 10 | 8 | | |
| 20 | 150 | 12 | | | | | | | | |
| 30 | 140 | 12 | | | | | | | | |
| 40 | 133 | 11 | 110 | 88 | 76 | 15 | 12 | 10 | | |
| 13:00 | | | | | | | | | 86 | 48 |

26 July 1963 Experiment No. 8 Tracer Release from 1045 to 1245 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:10 | 160 | 16 | | | | | | | | |
| 20 | 166 | 17 | | | | | | | | |
| 30 | 162 | 17 | | | | | | | | |
| 40 | 170 | 19 | 90 | 75 | 60 | 16 | 13 | 10 | | |
| 50 | 170 | 19 | | | | | | | | |
| 11:00 | 164 | 17 | | | | | | | 80 | 65 |
| 10 | 170 | 16 | 85 | 66 | 52 | 16 | 12 | 10 | | |
| 20 | 175 | 19 | | | | | | | | |
| 30 | 182 | 17 | | | | | | | | |
| 40 | 175 | 18 | 103 | 80 | 64 | 18 | 14 | 12 | | |
| 50 | 170 | 18 | | | | | | | | |
| 12:00 | 165 | 19 | | | | | | | 81 | 59 |
| 10 | 172 | 17 | 90 | 68 | 53 | 18 | 14 | 12 | | |
| 20 | 170 | 17 | | | | | | | | |
| 30 | 180 | 17 | | | | | | | | |
| 40 | 170 | 18 | 102 | 82 | 64 | 20 | 15 | 12 | | |
| 13:00 | | | | | | | | | 83 | 53 |

12 September 1963 Experiment No. 9 Tracer Release from 1115 to 1215 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:50 | 334 | 11 | | | | | | | | |
| 11:00 | 328 | 11 | | | | | | | 83 | 58 |
| 10 | 340 | 10 | | | | | | | | |
| 20 | 332 | 10 | 125 | 91 | 72 | 14 | 11 | 8 | | |
| 30 | 326 | 9 | | | | | | | | |
| 40 | 330 | 12 | | | | | | | | |
| 50 | 328 | 14 | 122 | 95 | 75 | 14 | 12 | 9 | | |
| 12:00 | 330 | 12 | | | | | | | 83 | 56 |
| 10 | 325 | 15 | | | | | | | | |
| 20 | 332 | 11 | 137 | 86 | 62 | 14 | 12 | 10 | | |
| 30 | 318 | 13 | | | | | | | | |
| 40 | 320 | 14 | | | | | | | | |
| 50 | 324 | 12 | 88 | 72 | 55 | 14 | 11 | 10 | | |
| 13:00 | 325 | 14 | | | | | | | 83 | 54 |
| 10 | 327 | 14 | | | | | | | | |
| 20 | 314 | 14 | 120 | 98 | 68 | 17 | 13 | 11 | | |

# Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

14 September 1963 Experiment No. 10 Tracer Release from 1045 to 1145 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:20 | 060 | 4 | | | | | | | | |
| 30 | 063 | 7 | | | | | | | | |
| 40 | 038 | 8 | | | | | | | | |
| 50 | 065 | 8 | 155 | 132 | 110 | 12 | 8 | 6 | | |
| 11:00 | 046 | 8 | | | | | | | 68 | 50 |
| 10 | 085 | 8 | | | | | | | | |
| 20 | 030 | 8 | 148 | 130 | 115 | 12 | 9 | 7 | | |
| 30 | 078 | 6 | | | | | | | | |
| 40 | 080 | 10 | | | | | | | | |
| 50 | 048 | 12 | 165 | 122 | 108 | 15 | 13 | 10 | | |
| 12:00 | 065 | 8 | | | | | | | 71 | 46 |
| 10 | 060 | 10 | | | | | | | | |
| 20 | 080 | 9 | 132 | 108 | 90 | 13 | 10 | 7 | | |
| 30 | 080 | 7 | | | | | | | | |
| 40 | 103 | 7 | | | | | | | | |
| 50 | 075 | 8 | 160 | 148 | 130 | 13 | 10 | 8 | | |
| 13:00 | | | | | | | | | 73 | 43 |

16 September 1963 Experiment No. 11 Tracer Release from 1100 to 1200 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:30 | 162 | 15 | | | | | | | | |
| 40 | 160 | 14 | | | | | | | | |
| 50 | 165 | 14 | | | | | | | | |
| 11:00 | 162 | 14 | 103 | 75 | 58 | 15 | 10 | 8 | 79 | 44 |
| 10 | 152 | 14 | | | | | | | | |
| 20 | 166 | 14 | | | | | | | | |
| 30 | 178 | 14 | 114 | 82 | 70 | 15 | 12 | 10 | | |
| 40 | 142 | 12 | | | | | | | | |
| 50 | 162 | 14 | | | | | | | | |
| 12:00 | 146 | 14 | 95 | 70 | 50 | 14 | 10 | 9 | 81 | 41 |
| 10 | 156 | 14 | | | | | | | | |
| 20 | 150 | 11 | | | | | | | | |
| 30 | 180 | 14 | 118 | 97 | 82 | 16 | 12 | 10 | | |
| 40 | 158 | 13 | | | | | | | | |
| 50 | 168 | 14 | | | | | | | | |
| 13:00 | 166 | 14 | 105 | 70 | 55 | 14 | 11 | 8 | 82 | 40 |

17 September 1963 Experiment No. 12 Tracer Release from 2000 to 2030 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 19:30 | 165 | 6 | | | | | | | | |
| 40 | 152 | 7 | | | | | | | | |
| 50 | 158 | 7 | | | | | | | | |
| 20:00 | 162 | 7 | 28 | 15 | 15 | 3 | <2 | <2 | 70 | 74 |
| 10 | 165 | 7 | | | | | | | | |
| 20 | 160 | 6 | | | | | | | | |
| 30 | 148 | 4 | 28 | 15 | 15 | 5 | <2 | <2 | | |
| 40 | 128 | 4 | | | | | | | | |
| 50 | 129 | 4 | | | | | | | | |
| 21:00 | 140 | 4 | 40 | 30 | 30 | <2 | <2 | <2 | 67 | 78 |
| 10 | 146 | 4 | | | | | | | | |
| 20 | 140 | 4 | | | | | | | | |
| 30 | 145 | 3 | 35 | 22 | 22 | 4 | <2 | <2 | | |
| 40 | 128 | 3 | | | | | | | | |
| 50 | 130 | 3 | | | | | | | | |
| 22:00 | 155 | 4 | 72 | 50 | 42 | 5 | <2 | <2 | 64 | 84 |
| 10 | 168 | 6 | | | | | | | | |
| 20 | 165 | 4 | | | | | | | | |
| 30 | 158 | 5 | 42 | 25 | 20 | 3 | <2 | <2 | | |
| 23:00 | | | | | | | | | 62 | 88 |

## Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

18 September 1963 Experiment No. 13 Tracer Release from 2000 to 2100 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 19:30 | 40 | 5 | | | | | | | | |
| 40 | 45 | 4 | | | | | | | | |
| 50 | 48 | 5 | | | | | | | | |
| 20:00 | 50 | 6 | 10 | - | - | 3 | <2 | <2 | 58 | 98 |
| 10 | 52 | 6 | | | | | | | | |
| 20 | 55 | 6 | | | | | | | | |
| 30 | 62 | 5 | 20 | - | - | <2 | <2 | <2 | | |
| 40 | 50 | 4 | | | | | | | | |
| 50 | 40 | 3 | | | | | | | | |
| 21:00 | 42 | < 2 | 40 | - | - | 3 | <2 | <2 | 59 | 96 |
| 10 | 42 | < 2 | | | | | | | | |
| 20 | 42 | < 2 | | | | | | | | |
| 30 | 45 | < 2 | <4 | - | - | <2 | <2 | <2 | | |
| 40 | 60 | 5 | | | | | | | | |
| 50 | 72 | 5 | | | | | | | | |
| 22:00 | 72 | 4 | 25 | - | - | <2 | <2 | <2 | 59 | 56 |
| 10 | 74 | < 2 | | | | | | | | |
| 20 | 73 | < 2 | | | | | | | | |
| 30 | 72 | 3 | <4 | - | - | <2 | <2 | <2 | | |
| 40 | 75 | < 2 | | | | | | | | |
| 50 | 70 | < 2 | | | | | | | | |
| 23:00 | 60 | < 2 | 15 | - | - | <2 | <2 | <2 | 59 | 97 |

1 April 1964 Experiment No. 14 Tracer Release from 1200 to 1300 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11:30 | 154 | 23 | | | | | | | | |
| 40 | 158 | 22 | | | | | | | | |
| 50 | 150 | 20 | | | | | | | | |
| 12:00 | 158 | 22 | 82 | 66 | 55 | 19 | 17 | 14 | 49 | 50 |
| 10 | 140 | 21 | | | | | | | | |
| 20 | 142 | 18 | | | | | | | | |
| 30 | 148 | 21 | 78 | 60 | 50 | 20 | 16 | 13 | | |
| 40 | 148 | 23 | | | | | | | | |
| 50 | 150 | 22 | | | | | | | | |
| 13:00 | 140 | 20 | 90 | 65 | 58 | 23 | 18 | 14 | 53 | 42 |
| 10 | 142 | 20 | | | | | | | | |
| 20 | 156 | 19 | | | | | | | | |
| 30 | 148 | 21 | 122 | 82 | 70 | 24 | 19 | 15 | | |
| 40 | 158 | 20 | | | | | | | | |
| 50 | 158 | 21 | | | | | | | | |
| 14:00 | 148 | 19 | 80 | 62 | 58 | 22 | 16 | 12 | 55 | 40 |

6 April 1964 Experiment No. 15 Tracer Release from 2040 to 2140 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:10 | 178 | 8 | | | | | | | | |
| 20 | 200 | 8 | | | | | | | | |
| 30 | 228 | 6 | | | | | | | | |
| 40 | 225 | 8 | 60 | 52 | 38 | 6 | 5 | 5 | | |
| 50 | 226 | 10 | | | | | | | | |
| 21:00 | 220 | 12 | | | | | | | 66 | 39 |
| 10 | 242 | 14 | 94 | 85 | 62 | 14 | 11 | 10 | | |
| 20 | 234 | 15 | | | | | | | | |
| 30 | 230 | 12 | | | | | | | | |
| 40 | 224 | 16 | 72 | 58 | 48 | 14 | 10 | 8 | | |
| 50 | 220 | 15 | | | | | | | | |
| 22:00 | 220 | 13 | | | | | | | 66 | 44 |
| 10 | 227 | 11 | 62 | 58 | 48 | 14 | 11 | 9 | | |
| 20 | 227 | 10 | | | | | | | | |
| 30 | 235 | 9 | | | | | | | | |
| 40 | 238 | 8 | 62 | 52 | 45 | 6 | 5 | 5 | | |
| 50 | 240 | 7 | | | | | | | | |
| 23:00 | 240 | 7 | | | | | | | 64 | 38 |
| 10 | 235 | 6 | 10 | - | - | 2 | <2 | <2 | | |
| 20 | 231 | 5 | | | | | | | | |
| 30 | 220 | 4 | | | | | | | | |
| 40 | 190 | 4 | 45 | - | - | 2 | <2 | <2 | | |
| 24:00 | | | | | | | | | 61 | 42 |

## Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

7 April 1964 — Experiment No. 16 — Tracer Release from 2048 to 2148 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:20 | 307 | 15 | | | | | | | | |
| 30 | 310 | 16 | | | | | | | | |
| 40 | 309 | 13 | | | | | | | | |
| 50 | 318 | 9 | 105 | 82 | 68 | 18 | 14 | 11 | | |
| 21:00 | 320 | 13 | | | | | | | 42 | 54 |
| 10 | 318 | 15 | | | | | | | | |
| 20 | 324 | 12 | 118 | 88 | 68 | 21 | 13 | 10 | | |
| 30 | 322 | 15 | | | | | | | | |
| 40 | 322 | 15 | | | | | | | | |
| 50 | 325 | 17 | 103 | 82 | 70 | 20 | 15 | 13 | | |
| 22:00 | 322 | 15 | | | | | | | 40 | 55 |
| 10 | 324 | 16 | | | | | | | | |
| 20 | 320 | 17 | 92 | 80 | 70 | 20 | 15 | 13 | | |
| 30 | 325 | 18 | | | | | | | | |
| 40 | 318 | 17 | | | | | | | | |
| 50 | 325 | 14 | 98 | 80 | 62 | 23 | 17 | 13 | | |
| 23:00 | 326 | 16 | | | | | | | 39 | 55 |
| 10 | 322 | 15 | | | | | | | | |
| 20 | 312 | 17 | 118 | 85 | 63 | 21 | 17 | 15 | | |
| 30 | 313 | 20 | | | | | | | | |
| 40 | 314 | 18 | | | | | | | | |
| 50 | 317 | 18 | 110 | 90 | 72 | 23 | 18 | 16 | | |
| 24:00 | 312 | 17 | | | | | | | 38 | 54 |

8 April 1964 — Experiment No. 17 — Tracer Release from 2030 to 2130 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:00 | 256 | 8 | | | | | | | 30 | 58 |
| 10 | 258 | 9 | | | | | | | | |
| 20 | 258 | 10 | | | | | | | | |
| 30 | 255 | 10 | 52 | 45 | 35 | 6 | 5 | 4 | | |
| 40 | 252 | 9 | | | | | | | | |
| 50 | 252 | 8 | | | | | | | | |
| 21:00 | 250 | 8 | 32 | 25 | 20 | 5 | 4 | 4 | 35 | 62 |
| 10 | 250 | 9 | | | | | | | | |
| 20 | 262 | 9 | | | | | | | | |
| 30 | 264 | 10 | 85 | 56 | 42 | 8 | 5 | 5 | | |
| 40 | 264 | 9 | | | | | | | | |
| 50 | 264 | 10 | | | | | | | | |
| 22:00 | 262 | 11 | 65 | 50 | 40 | 8 | 6 | 4 | 35 | 66 |
| 10 | 258 | 10 | | | | | | | | |
| 20 | 264 | 12 | | | | | | | | |
| 30 | 270 | 12 | 65 | 55 | 46 | 8 | 6 | 5 | | |
| 40 | 274 | 11 | | | | | | | | |
| 50 | 270 | 11 | | | | | | | | |
| 23:00 | 278 | 11 | 49 | 37 | 30 | 7 | 5 | 4 | 34 | 66 |
| 10 | 278 | 11 | | | | | | | | |
| 20 | 279 | 10 | | | | | | | | |
| 30 | 275 | 10 | 50 | 38 | 32 | 6 | 5 | 4 | | |
| 24:00 | | | | | | | | | 32 | 68 |

# Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

9 April 1964 — Experiment No. 18 — Tracer Release from 2045 to 2145 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:20 | 202 | 6 | | | | | | | | |
| 30 | 200 | 5 | | | | | | | | |
| 40 | 180 | 4 | | | | | | | | |
| 50 | 182 | 4 | 25 | - | - | 2 | <2 | <2 | | |
| 21:00 | 185 | 5 | | | | | | | - | 27 |
| 10 | 192 | 6 | | | | | | | | |
| 20 | 200 | 6 | 22 | - | - | 3 | <2 | <2 | | |
| 30 | 202 | 6 | | | | | | | | |
| 40 | 198 | 7 | | | | | | | | |
| 50 | 200 | 8 | 10 | - | - | 3 | <2 | <2 | | |
| 22:00 | 200 | 9 | | | | | | | - | 28 |
| 10 | 200 | 9 | | | | | | | | |
| 20 | 194 | 9 | 10 | - | - | <2 | <2 | <2 | | |
| 30 | 198 | 8 | | | | | | | | |
| 40 | 204 | 8 | | | | | | | | |
| 50 | 204 | 8 | 15 | - | - | <2 | <2 | <2 | | |
| 23:00 | 195 | 6 | | | | | | | - | 30 |
| 10 | 182 | 5 | | | | | | | | |
| 20 | 170 | 5 | 38 | - | - | 2 | <2 | <2 | | |
| 30 | 168 | 5 | | | | | | | | |
| 40 | 178 | 6 | | | | | | | | |
| 50 | 185 | 7 | 30 | - | - | 3 | <2 | <2 | | |
| 24:00 | 200 | 7 | | | | | | | - | 33 |

2 June 1964 — Experiment No. 19 — Tracer Release from 1030 to 1130 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:00 | 320 | 10 | | | | | | | 59 | 61 |
| 10 | 328 | 12 | | | | | | | | |
| 20 | 315 | 12 | | | | | | | | |
| 30 | 312 | 14 | 130 | 105 | 88 | 16 | 12 | 8 | | |
| 40 | 312 | 12 | | | | | | | | |
| 50 | 305 | 12 | | | | | | | | |
| 11:00 | 315 | 12 | 119 | 102 | 80 | 14 | 10 | 8 | 63 | 58 |
| 10 | 328 | 12 | | | | | | | | |
| 20 | 308 | 11 | | | | | | | | |
| 30 | 315 | 11 | 120 | 96 | 80 | 16 | 12 | 9 | | |
| 40 | 325 | 12 | | | | | | | | |
| 50 | 305 | 12 | | | | | | | | |
| 12:00 | 302 | 13 | 142 | 108 | 88 | 15 | 10 | 8 | 66 | 51 |
| 10 | 320 | 10 | | | | | | | | |
| 20 | 316 | 12 | | | | | | | | |
| 30 | 310 | 9 | 145 | 114 | 92 | 15 | 10 | 8 | | |
| 13:00 | | | | | | | | | 69 | 44 |

3 June 1964 — Experiment No. 20 — Tracer Release from 1040 to 1140 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:20 | 312 | 8 | | | | | | | | |
| 30 | 298 | 8 | | | | | | | | |
| 40 | 278 | 6 | | | | | | | | |
| 50 | 260 | 8 | 218 | 142 | 122 | 14 | 10 | 9 | | |
| 11:00 | 250 | 6 | | | | | | | 65 | 56 |
| 10 | 270 | 7 | | | | | | | | |
| 20 | 235 | 9 | 250 | 145 | 125 | 16 | 11 | 9 | | |
| 30 | 238 | 7 | | | | | | | | |
| 40 | 238 | 5 | | | | | | | | |
| 50 | 255 | 9 | 203 | 152 | 118 | 14 | 11 | 9 | | |
| 12:00 | 253 | 9 | | | | | | | 67 | 48 |
| 10 | 258 | 10 | | | | | | | | |
| 20 | 227 | 11 | 172 | 132 | 104 | 13 | 10 | 8 | | |
| 30 | 245 | 8 | | | | | | | | |
| 40 | 293 | 10 | | | | | | | | |
| 50 | 268 | 8 | 185 | 158 | 125 | 14 | 10 | 8 | | |
| 13:00 | | | | | | | | | 69 | 40 |

# Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

4 June 1964 — Experiment No. 21 — Tracer Release from 1030 to 1130 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:00 | 204 | 10 | | | | | | | 67 | 59 |
| 10 | 208 | 8 | | | | | | | | |
| 20 | 190 | 8 | | | | | | | | |
| 30 | 178 | 6 | 62 | 55 | 48 | 6 | 4 | 4 | | |
| 40 | 186 | 7 | | | | | | | | |
| 50 | 188 | 7 | | | | | | | | |
| 11:00 | 179 | 7 | 92 | 70 | 58 | 7 | 6 | 5 | 69 | 46 |
| 10 | 150 | 9 | | | | | | | | |
| 20 | 162 | 8 | | | | | | | | |
| 30 | 162 | 7 | 80 | 60 | 50 | 8 | 5 | 5 | | |
| 40 | 172 | 7 | | | | | | | | |
| 50 | 170 | 9 | | | | | | | | |
| 12:00 | 155 | 8 | 115 | 80 | 63 | 10 | 7 | 5 | 70 | 44 |
| 10 | 138 | 8 | | | | | | | | |
| 20 | 132 | 9 | | | | | | | | |
| 30 | 104 | 8 | 191 | 119 | 106 | 14 | 10 | 8 | | |
| 13:00 | | | | | | | | | 72 | 42 |

6 June 1964 — Experiment No. 22 — Tracer Release from 1130 to 1230 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 204 | 11 | | | | | | | 73 | 70 |
| 10 | 180 | 9 | | | | | | | | |
| 20 | 183 | 10 | | | | | | | | |
| 30 | 195 | 10 | 112 | 90 | 78 | 11 | 9 | 6 | | |
| 40 | 188 | 9 | | | | | | | | |
| 50 | 205 | 12 | | | | | | | | |
| 12:00 | 203 | 10 | 142 | 98 | 70 | 16 | 13 | 8 | 76 | 66 |
| 10 | 200 | 12 | | | | | | | | |
| 20 | 188 | 12 | | | | | | | | |
| 30 | 194 | 13 | 98 | 72 | 55 | 10 | 9 | 6 | | |
| 40 | 210 | 9 | | | | | | | | |
| 50 | 221 | 9 | | | | | | | | |
| 13:00 | 206 | 9 | 95 | 76 | 55 | 10 | 6 | 5 | 79 | 62 |
| 10 | 230 | 10 | | | | | | | | |
| 20 | 226 | 10 | | | | | | | | |
| 30 | 220 | 10 | 129 | 88 | 65 | 10 | 9 | 7 | | |
| 14:00 | | | | | | | | | 80 | 59 |

7 June 1964 — Experiment No. 23 — Tracer Release from 113? to 123? CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 214 | 13 | | | | | | | 80 | 66 |
| 10 | 215 | 12 | | | | | | | | |
| 20 | 228 | 11 | | | | | | | | |
| 30 | 232 | 13 | 126 | 97 | 80 | 11 | 9 | 8 | | |
| 40 | 231 | 11 | | | | | | | | |
| 50 | 232 | 11 | | | | | | | | |
| 12:00 | 252 | 10 | 130 | 100 | 78 | 15 | 10 | 8 | 82 | 54 |
| 10 | 234 | 10 | | | | | | | | |
| 20 | 257 | 10 | | | | | | | | |
| 30 | 243 | 12 | 122 | 108 | 90 | 14 | 10 | 8 | | |
| 40 | 252 | 10 | | | | | | | | |
| 50 | 252 | 10 | | | | | | | | |
| 13:00 | 250 | 11 | 138 | 112 | 87 | 13 | 9 | 6 | 82 | 50 |
| 10 | 243 | 11 | | | | | | | | |
| 20 | 262 | 13 | | | | | | | | |
| 30 | 265 | 10 | 122 | 103 | 90 | 17 | 14 | 10 | | |
| 14:00 | | | | | | | | | 82 | 50 |

9 June 1964 — Experiment No. 24 — Tracer Release from 1030 to 1130 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:00 | | | | | | | | | 83 | 58 |
| 10 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 40 | | | | | | | | | | |
| 50 | | | | | | | | | | |
| 11:00 | | | | | | | | | 85 | 55 |
| 10 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 30 | WIND DATA MISSING | | | | | | | | | |
| 40 | | | | | | | | | | |
| 50 | | | | | | | | | | |
| 12:00 | | | | | | | | | 87 | 52 |
| 10 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 40 | | | | | | | | | | |
| 50 | | | | | | | | | | |
| 13:00 | | | | | | | | | 88 | 53 |

# Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

10 June 1964 Experiment No. 25 Tracer Release from 1033 to 1133 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:00 | | | | | | | | | 74 | 58 |
| 10 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 40 | | | | | | | | | | |
| 50 | | | | | | | | | | |
| 11:00 | | | | | | | | | 77 | 57 |
| 10 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 30 | | | WIND DATA MISSING | | | | | | | |
| 40 | | | | | | | | | | |
| 50 | | | | | | | | | | |
| 12:00 | | | | | | | | | 79 | 53 |
| 10 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 40 | | | | | | | | | | |
| 50 | | | | | | | | | 81 | 51 |
| 13:00 | | | | | | | | | | |

11 June 1964 Experiment No. 26 Tracer Release from 1035 to 1135 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:00 | | | | | | | | | 74 | 67 |
| 10 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 40 | | | | | | | | | | |
| 50 | | | | | | | | | | |
| 11:00 | | | | | | | | | 79 | 60 |
| 10 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 30 | | | WIND DATA MISSING | | | | | | | |
| 40 | | | | | | | | | | |
| 50 | | | | | | | | | | |
| 12:00 | | | | | | | | | 81 | 58 |
| 10 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 40 | | | | | | | | | | |
| 50 | | | | | | | | | | |
| 13:00 | | | | | | | | | 83 | 54 |

10 October 1964 Experiment No. 27 Tracer Release from 1130 to 1230 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 042 | 7 | | | | | | | 51 | 43 |
| 10 | 020 | 5 | | | | | | | | |
| 20 | 044 | 4 | | | | | | | | |
| 30 | 338 | 4 | 248 | 238 | 152 | 10 | 7 | 5 | | |
| 40 | 008 | 6 | | | | | | | | |
| 50 | 358 | 5 | | | | | | | | |
| 12:00 | 052 | 8 | 209 | 162 | 125 | 10 | 9 | 7 | 53 | 38 |
| 10 | 040 | 6 | | | | | | | | |
| 20 | 015 | 5 | | | | | | | | |
| 30 | 006 | 4 | 258 | 178 | 138 | 9 | 6 | 5 | | |
| 40 | 012 | 6 | | | | | | | | |
| 50 | 050 | 9 | | | | | | | | |
| 13:00 | 014 | 4 | 218 | 165 | 136 | 11 | 8 | 6 | 55 | 34 |
| 10 | 058 | 9 | | | | | | | | |
| 20 | 020 | 7 | | | | | | | | |
| 30 | 345 | 4 | 185 | 162 | 130 | 13 | 10 | 6 | | |
| 14:00 | | | | | | | | | 56 | 31 |

11 October 1964 Experiment No. 28 Tracer Release from 1105 to 1205 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:30 | 154 | 13 | | | | | | | | |
| 40 | 150 | 12 | | | | | | | | |
| 50 | 150 | 13 | | | | | | | | |
| 11:00 | 160 | 13 | 98 | 85 | 70 | 13 | 10 | 8 | 54 | 38 |
| 10 | 150 | 12 | | | | | | | | |
| 20 | 165 | 13 | | | | | | | | |
| 30 | 172 | 13 | 122 | 92 | 70 | 12 | 10 | 8 | | |
| 40 | 150 | 12 | | | | | | | | |
| 50 | 129 | 12 | | | | | | | | |
| 12:00 | 133 | 11 | 132 | 110 | 88 | 12 | 10 | 9 | 57 | 35 |
| 10 | 142 | 11 | | | | | | | | |
| 20 | 152 | 12 | | | | | | | | |
| 30 | 158 | 12 | 137 | 115 | 90 | 15 | 12 | 9 | | |
| 40 | 160 | 13 | | | | | | | | |
| 50 | 145 | 11 | | | | | | | | |
| 13:00 | 168 | 12 | 145 | 120 | 100 | 16 | 12 | 10 | 60 | 32 |

## Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

12 October 1964 — Experiment No. 29 — Tracer Release from 2000 to 2100 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 19:30 | 342 | 6 | | | | | | | | |
| 40 | 315 | 7 | | | | | | | | |
| 50 | 322 | 6 | | | | | | | | |
| 20:00 | 312 | 7 | 52 | 42 | 27 | 3 | 2 | 2 | 57 | 61 |
| 10 | 312 | 7 | | | | | | | | |
| 20 | 314 | 6 | | | | | | | | |
| 30 | 335 | 5 | 59 | 48 | 32 | 3 | 2 | 2 | | |
| 40 | 350 | 6 | | | | | | | | |
| 50 | 007 | 6 | | | | | | | | |
| 21:00 | 008 | 6 | 36 | 22 | 11 | 2 | 2 | <2 | 57 | 64 |
| 10 | 350 | 6 | | | | | | | | |
| 20 | 345 | 6 | | | | | | | | |
| 30 | 360 | 6 | 30 | 17 | 7 | 2 | 2 | <2 | | |
| 40 | 355 | 7 | | | | | | | | |
| 50 | 348 | 7 | | | | | | | | |
| 22:00 | 344 | 6 | 20 | 12 | 10 | 2 | 2 | <2 | 55 | 71 |
| 10 | 348 | 6 | | | | | | | | |
| 20 | 355 | 7 | | | | | | | | |
| 30 | 350 | 6 | 25 | 11 | 5 | 2 | 2 | <2 | | |
| 40 | 356 | 7 | | | | | | | | |
| 50 | 360 | 6 | | | | | | | | |
| 23:00 | 010 | 4 | 16 | 8 | 5 | 1 | <2 | <2 | 54 | 71 |

16 October 1964 — Experiment No. 30 — Tracer Release from 2000 to 2100 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 19:30 | 222 | 2 | | | | | | | | |
| 40 | 218 | 2 | | | | | | | | |
| 50 | 218 | 4 | | | | | | | | |
| 20:00 | 228 | 4 | 22 | - | - | 4 | <2 | <2 | 60 | 50 |
| 10 | 222 | 4 | | | | | | | | |
| 20 | 227 | 4 | | | | | | | | |
| 30 | 227 | 6 | 20 | - | - | 3 | <2 | <2 | | |
| 40 | 232 | 6 | | | | | | | | |
| 50 | 235 | 5 | | | | | | | | |
| 21:00 | 230 | 4 | 15 | - | - | 3 | <2 | <2 | 58 | 60 |
| 10 | 224 | 5 | | | | | | | | |
| 20 | 214 | 5 | | | | | | | | |
| 30 | 200 | 5 | 32 | - | - | <2 | <2 | <2 | | |
| 40 | 190 | 4 | | | | | | | | |
| 50 | 194 | 5 | | | | | | | | |
| 22:00 | 191 | 5 | 18 | - | - | 2 | <2 | <2 | 56 | 64 |
| 10 | 190 | 6 | | | | | | | | |
| 20 | 176 | 6 | | | | | | | | |
| 30 | 172 | 6 | 31 | - | - | <2 | <2 | <2 | | |
| 40 | 186 | 6 | | | | | | | | |
| 50 | 192 | 6 | | | | | | | | |
| 23:00 | 190 | 6 | 31 | - | - | <2 | <2 | <2 | 56 | 54 |

## Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

17 October 1964 Experiment No. 31 Tracer Release from 1315 to 1415 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 12:50 | 158 | 12 | | | | | | | | |
| 13:00 | 152 | 13 | | | | | | | 80 | 24 |
| 10 | 159 | 13 | | | | | | | | |
| 20 | 148 | 14 | 98 | 70 | 58 | 12 | 10 | 8 | | |
| 30 | 160 | 12 | | | | | | | | |
| 40 | 158 | 12 | | | | | | | | |
| 50 | 152 | 13 | 72 | 55 | 42 | 13 | 10 | 8 | | |
| 14:00 | 148 | 14 | | | | | | | | |
| 10 | 158 | 14 | | | | | | | 80 | 23 |
| 20 | 162 | 12 | 78 | 62 | 55 | 12 | 7 | 6 | | |
| 30 | 152 | 15 | | | | | | | | |
| 40 | 162 | 12 | | | | | | | | |
| 50 | 156 | 12 | 79 | 62 | 52 | 13 | 10 | 8 | | |
| 15:00 | 152 | 12 | | | | | | | 80 | 23 |
| 10 | 153 | 12 | | | | | | | | |
| 20 | 150 | 12 | 79 | 60 | 48 | 10 | 6 | 5 | | |
| 16:00 | | | | | | | | | 80 | 25 |

29 October 1964 Experiment No. 32 Tracer Release from 1945 to 2045 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 19:10 | 350 | 8 | | | | | | | | |
| 20 | 342 | 8 | | | | | | | | |
| 30 | 335 | 8 | | | | | | | | |
| 40 | 320 | 6 | 90 | 61 | 42 | 6 | 5 | 3 | | |
| 50 | 324 | 6 | | | | | | | | |
| 20:00 | 316 | 6 | | | | | | | 47 | 47 |
| 10 | 308 | 7 | 82 | 52 | 34 | 5 | 3 | 2 | | |
| 20 | 310 | 5 | | | | | | | | |
| 30 | 310 | 6 | | | | | | | | |
| 40 | 307 | 8 | 66 | 58 | 40 | 6 | 4 | 3 | | |
| 50 | 295 | 6 | | | | | | | | |
| 21:00 | 310 | 6 | | | | | | | 46 | 50 |
| 10 | 312 | 9 | 68 | 52 | 36 | 6 | 4 | 2 | | |
| 20 | 309 | 8 | | | | | | | | |
| 30 | 310 | 7 | | | | | | | | |
| 40 | 310 | 8 | 62 | 53 | 38 | 5 | 4 | 3 | | |
| 50 | 322 | 9 | | | | | | | | |
| 22:00 | 325 | 9 | | | | | | | 44 | 58 |
| 10 | 322 | 9 | 76 | 42 | 32 | 8 | 6 | 4 | | |
| 20 | 320 | 8 | | | | | | | | |
| 30 | 328 | 8 | | | | | | | | |
| 40 | 318 | 8 | 70 | 44 | 29 | 4 | 3 | 2 | | |
| 23:00 | | | | | | | | | 42 | 66 |

20 October 1964 Experiment No. 33 Tracer Release from 1915 to 2015 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 18:40 | 200 | 8 | | | | | | | | |
| 50 | 200 | 9 | | | | | | | | |
| 19:00 | 201 | 9 | | | | | | | 51 | 26 |
| 10 | 199 | 10 | 16 | 11 | 9 | 3 | 2 | 2 | | |
| 20 | 200 | 10 | | | | | | | | |
| 30 | 204 | 10 | | | | | | | | |
| 40 | 202 | 10 | 18 | 13 | 9 | 3 | 2 | 2 | | |
| 50 | 200 | 11 | | | | | | | | |
| 20:00 | 200 | 11 | | | | | | | 50 | 27 |
| 10 | 200 | 10 | 22 | 18 | 15 | 4 | 3 | 3 | | |
| 20 | 200 | 10 | | | | | | | | |
| 30 | 195 | 9 | | | | | | | | |
| 40 | 195 | 9 | 26 | 20 | 11 | 3 | 2 | 2 | | |
| 50 | 192 | 9 | | | | | | | | |
| 21:00 | 192 | 9 | | | | | | | 49 | 28 |
| 10 | 191 | 9 | 27 | 14 | 10 | 3 | 2 | 2 | | |
| 20 | 192 | 9 | | | | | | | | |
| 30 | 192 | 9 | | | | | | | | |
| 40 | 190 | 9 | 26 | 16 | 12 | 2 | 2 | 2 | | |
| 50 | 190 | 10 | | | | | | | | |
| 22:00 | 194 | 11 | | | | | | | 48 | 29 |
| 10 | 197 | 11 | 31 | 20 | 12 | 3 | 2 | 2 | | |

# Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

21 October 1964 — Experiment No. 34 — Tracer Release from 1920 to 2020 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 18:30 | 002 | 11 | | | | | | | | |
| 40 | 008 | 11 | | | | | | | | |
| 50 | 010 | 11 | | | | | | | | |
| 19:00 | 010 | 12 | 55 | 44 | 32 | 9 | 6 | 5 | 58 | 26 |
| 10 | 012 | 12 | | | | | | | | |
| 20 | 012 | 13 | | | | | | | | |
| 30 | 012 | 11 | 70 | 54 | 45 | 9 | 7 | 5 | | |
| 40 | 010 | 11 | | | | | | | | |
| 50 | 010 | 10 | | | | | | | | |
| 20:00 | 014 | 11 | 61 | 45 | 38 | 6 | 5 | 4 | 55 | 28 |
| 10 | 005 | 11 | | | | | | | | |
| 20 | 008 | 11 | | | | | | | | |
| 30 | 008 | 12 | 66 | 45 | 39 | 8 | 6 | 5 | | |
| 40 | 005 | 13 | | | | | | | | |
| 50 | 010 | 12 | | | | | | | | |
| 21:00 | 010 | 12 | 69 | 48 | 37 | 9 | 6 | 5 | 53 | 29 |
| 10 | 010 | 10 | | | | | | | | |
| 20 | 010 | 10 | | | | | | | | |
| 30 | 005 | 10 | 42 | 41 | 36 | 6 | 4 | 3 | | |
| 40 | 008 | 10 | | | | | | | | |
| 50 | 008 | 8 | | | | | | | | |
| 22:00 | 005 | 8 | 40 | 35 | 29 | 6 | 4 | 3 | 50 | 32 |

6 March 1965 — Experiment No. 35 — Tracer Release from 1230 to 1330 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 | 302 | 15 | | | | | | | 32 | 92 |
| 10 | 304 | 14 | | | | | | | | |
| 20 | 307 | 15 | | | | | | | | |
| 30 | 308 | 16 | 88 | 77 | 62 | 15 | 11 | 9 | | |
| 40 | 306 | 18 | | | | | | | | |
| 50 | 303 | 16 | | | | | | | | |
| 13:00 | 302 | 17 | 74 | 63 | 57 | 14 | 11 | 8 | 32 | 90 |
| 10 | 298 | 18 | | | | | | | | |
| 20 | 296 | 18 | | | | | | | | |
| 30 | 301 | 18 | 79 | 67 | 56 | 15 | 12 | 10 | | |
| 40 | 298 | 16 | | | | | | | | |
| 50 | 296 | 15 | | | | | | | | |
| 14:00 | 290 | 15 | 80 | 72 | 59 | 15 | 11 | 10 | 32 | 90 |
| 10 | 292 | 16 | | | | | | | | |
| 20 | 292 | 15 | | | | | | | | |
| 30 | 294 | 17 | 100 | 80 | 52 | 15 | 12 | 10 | | |
| 15:00 | | | | | | | | | 32 | 86 |

7 March 1965 — Experiment No. 36 — Tracer Release from 1230 to 1330 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 | 350 | 13 | | | | | | | 34 | 96 |
| 10 | 340 | 13 | | | | | | | | |
| 20 | 346 | 15 | | | | | | | | |
| 30 | 348 | 15 | 92 | 72 | 58 | 14 | 12 | 9 | | |
| 40 | 348 | 13 | | | | | | | | |
| 50 | 349 | 13 | | | | | | | | |
| 13:00 | 351 | 13 | 99 | 80 | 62 | 11 | 10 | 6 | 34 | 96 |
| 10 | 347 | 13 | | | | | | | | |
| 20 | 347 | 13 | | | | | | | | |
| 30 | 354 | 13 | 68 | 55 | 42 | 11 | 9 | 8 | | |
| 40 | 356 | 13 | | | | | | | | |
| 50 | 350 | 14 | | | | | | | | |
| 14:00 | 345 | 16 | 72 | 62 | 50 | 13 | 10 | 8 | 34 | 93 |
| 10 | 350 | 15 | | | | | | | | |
| 20 | 351 | 14 | | | | | | | | |
| 30 | 351 | 15 | 91 | 62 | 53 | 15 | 10 | 7 | | |
| 15:00 | | | | | | | | | 34 | 96 |

## Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

8 March 1965 — Experiment No. 37 — Tracer Release from 2030 to 2130 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:00 | 290 | 16 | | | | | | | 38 | 78 |
| 10 | 286 | 16 | | | | | | | | |
| 20 | 288 | 15 | | | | | | | | |
| 30 | 288 | 15 | 108 | 82 | 68 | 14 | 10 | 9 | | |
| 40 | 283 | 14 | | | | | | | | |
| 50 | 285 | 12 | | | | | | | | |
| 21:00 | 284 | 12 | 92 | 79 | 60 | 15 | 10 | 10 | 37 | 84 |
| 10 | 288 | 13 | | | | | | | | |
| 20 | 290 | 13 | | | | | | | | |
| 30 | 296 | 15 | 92 | 73 | 61 | 13 | 9 | 8 | | |
| 40 | 297 | 15 | | | | | | | | |
| 50 | 295 | 15 | | | | | | | | |
| 22:00 | 294 | 16 | 94 | 62 | 50 | 12 | 9 | 8 | 36 | 84 |
| 10 | 294 | 16 | | | | | | | | |
| 20 | 300 | 17 | | | | | | | | |
| 30 | 308 | 17 | 79 | 59 | 52 | 17 | 17 | 16 | | |
| 40 | 308 | 16 | | | | | | | | |
| 50 | 310 | 15 | | | | | | | | |
| 23:00 | 303 | 12 | 75 | 60 | 48 | 12 | 10 | 7 | 34 | 86 |
| 10 | 298 | 12 | | | | | | | | |
| 20 | 292 | 13 | | | | | | | | |
| 30 | 295 | 14 | 76 | 63 | 45 | 13 | 10 | 7 | | |
| 24:00 | | | | | | | | | 33 | 85 |

11 March 1965 — Experiment No. 38 — Tracer Release from 2030 to 2130 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:00 | 292 | 10 | | | | | | | 40 | 46 |
| 10 | 298 | 10 | | | | | | | | |
| 20 | 305 | 10 | | | | | | | | |
| 30 | 307 | 10 | 62 | 46 | 35 | 6 | 4 | 3 | | |
| 40 | 315 | 9 | | | | | | | | |
| 50 | 320 | 9 | | | | | | | | |
| 21:00 | 328 | 8 | 72 | 60 | 48 | 5 | 3 | 3 | 40 | 52 |
| 10 | 330 | 7 | | | | | | | | |
| 20 | 350 | 6 | | | | | | | | |
| 30 | 350 | 6 | 55 | 45 | 35 | 3 | 3 | 2 | | |
| 40 | 350 | 6 | | | | | | | | |
| 50 | 360 | 5 | | | | | | | | |
| 22:00 | 006 | 5 | 41 | 30 | 21 | 3 | 2 | <2 | 39 | 54 |
| 10 | 010 | 5 | | | | | | | | |
| 20 | 360 | 5 | | | | | | | | |
| 30 | 346 | 5 | 42 | 35 | 25 | 4 | 3 | 2 | | |
| 40 | 348 | 5 | | | | | | | | |
| 50 | 351 | 6 | | | | | | | | |
| 23:00 | 358 | 6 | 35 | 23 | 15 | 4 | 3 | 2 | 39 | 60 |
| 10 | 008 | 6 | | | | | | | | |
| 20 | 006 | 5 | | | | | | | | |
| 30 | 002 | 6 | 32 | 20 | 14 | 3 | 3 | 2 | | |
| 24:00 | | | | | | | | | 37 | 79 |

# Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

13 March 1965 — Experiment No. 39 — Tracer Release from 1220 to 1320 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 11:50 | 305 | 8 | | | | | | | | |
| 12:00 | 300 | 8 | | | | | | | 40 | 44 |
| 10 | 308 | 7 | | | | | | | | |
| 20 | 280 | 7 | 240 | 148 | 125 | 9 | 7 | 6 | | |
| 30 | 290 | 8 | | | | | | | | |
| 40 | 304 | 7 | | | | | | | | |
| 50 | 310 | 5 | 156 | 125 | 112 | 8 | 6 | 5 | | |
| 13:00 | 308 | 8 | | | | | | | 43 | 35 |
| 10 | 329 | 8 | | | | | | | | |
| 20 | 324 | 6 | 182 | 155 | 130 | 10 | 8 | 6 | | |
| 30 | 278 | 8 | | | | | | | | |
| 40 | 287 | 6 | | | | | | | | |
| 50 | 276 | 6 | 197 | 175 | 150 | 10 | 8 | 6 | | |
| 14:00 | 302 | 6 | | | | | | | 45 | 30 |
| 10 | 225 | 4 | | | | | | | | |
| 20 | 318 | 6 | 240 | 215 | 195 | 10 | 8 | 6 | | |

14 March 1965 — Experiment No. 40 — Tracer Release from 1100 to 1200 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10:30 | 308 | 19 | | | | | | | | |
| 40 | 298 | 16 | | | | | | | | |
| 50 | 304 | 16 | | | | | | | | |
| 11:00 | 291 | 18 | - | - | - | 15 | 13 | 12 | 39 | 54 |
| 10 | 296 | 20 | | | | | | | | |
| 20 | 304 | 18 | | | | | | | | |
| 30 | 300 | 15 | - | - | - | 19 | 15 | 13 | | |
| 40 | 314 | 17 | | | | | | | | |
| 50 | 300 | 17 | | | | | | | | |
| 12:00 | 311 | 18 | - | - | - | 20 | 15 | 13 | 41 | 43 |
| 10 | 300 | 17 | | | | | | | | |
| 20 | 298 | 15 | | | | | | | | |
| 30 | 305 | 16 | - | - | - | 18 | 15 | 14 | | |
| 40 | 305 | 20 | | | | | | | | |
| 50 | 292 | 21 | | | | | | | | |
| 13:00 | 310 | 18 | - | - | - | 20 | 17 | 15 | 43 | 40 |

15 March 1965 — Experiment No. 41 — Tracer Release from 2050 to 2150 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:20 | 345 | 8 | | | | | | | | |
| 30 | 342 | 9 | | | | | | | | |
| 40 | 338 | 9 | | | | | | | | |
| 50 | 322 | 6 | 42 | 38 | 35 | 5 | 3 | <2 | | |
| 21:00 | 278 | 4 | | | | | | | 48 | 64 |
| 10 | 305 | 5 | | | | | | | | |
| 20 | 328 | 7 | 103 | 55 | 45 | 5 | 2 | <2 | | |
| 30 | 338 | 8 | | | | | | | | |
| 40 | 349 | 9 | | | | | | | | |
| 50 | 358 | 9 | 21 | 18 | 15 | 3 | 2 | <2 | | |
| 22:00 | 014 | 8 | | | | | | | 46 | 45 |
| 10 | 012 | 6 | | | | | | | | |
| 20 | 004 | 8 | 22 | 22 | 16 | 3 | 2 | <2 | | |
| 30 | 012 | 9 | | | | | | | | |
| 40 | 012 | 10 | | | | | | | | |
| 50 | 012 | 10 | 20 | 15 | 13 | 3 | 2 | <2 | | |
| 23:00 | 023 | 10 | | | | | | | 44 | 66 |
| 10 | 025 | 10 | | | | | | | | |
| 20 | 023 | 10 | 42 | 35 | 28 | 3 | 2 | <2 | | |
| 30 | 024 | 8 | | | | | | | | |
| 40 | 020 | 9 | | | | | | | | |
| 50 | 020 | 8 | 42 | 32 | 26 | 3 | 2 | <2 | | |
| 24:00 | | | | | | | | | 43 | 67 |

## Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

16 March 1965 — Experiment No. 42 — Tracer Release from 2030 to 2130 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 20:00 | 100 | 19 | | | | | | | 61 | 58 |
| 10 | 100 | 20 | | | | | | | | |
| 20 | 108 | 21 | | | | | | | | |
| 30 | 104 | 21 | 90 | 71 | 57 | 17 | 14 | 11 | | |
| 40 | 95 | 19 | | | | | | | | |
| 50 | 97 | 18 | | | | | | | | |
| 21:00 | 96 | 18 | 62 | 54 | 42 | 15 | 12 | 9 | 58 | 63 |
| 10 | 97 | 17 | | | | | | | | |
| 20 | 104 | 19 | | | | | | | | |
| 30 | 112 | 20 | 88 | 70 | 55 | 18 | 14 | 12 | | |
| 40 | 116 | 20 | | | | | | | | |
| 50 | 115 | 20 | | | | | | | | |
| 22:00 | 115 | 21 | 75 | 65 | 56 | 20 | 16 | 14 | 57 | 70 |
| 10 | 115 | 20 | | | | | | | | |
| 20 | 118 | 20 | | | | | | | | |
| 30 | 120 | 21 | 93 | 72 | 61 | 18 | 16 | 13 | | |
| 40 | 120 | 22 | | | | | | | | |
| 50 | 122 | 23 | | | | | | | | |
| 23:00 | 122 | 21 | 80 | 68 | 58 | 25 | 18 | 14 | 54 | 76 |
| 10 | 130 | 21 | | | | | | | | |
| 20 | 136 | 21 | | | | | | | | |
| 30 | 136 | 24 | 90 | 78 | 58 | 25 | 20 | 15 | | |
| 24:00 | | | | | | | | | 53 | 78 |

17 March 1965 — Experiment No. 43 — Tracer Release from 2000 to 2100 CST

| Time (CST) | D(deg) | S(mph) | Direction Range 1 | 3 | 5 | Speed Range 1 | 3 | 5 | T(°F) | RH(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 19:30 | 290 | 28 | | | | | | | | |
| 40 | 286 | 25 | | | | | | | | |
| 50 | 292 | 26 | | | | | | | | |
| 20:00 | 292 | 31 | 145 | 92 | 70 | 42 | 35 | 28 | 34 | 73 |
| 10 | 292 | 32 | | | | | | | | |
| 20 | 292 | 26 | | | | | | | | |
| 30 | 288 | 27 | 120 | 90 | 65 | 34 | 28 | 24 | | |
| 40 | 290 | 27 | | | | | | | | |
| 50 | 295 | 30 | | | | | | | | |
| 21:00 | 292 | 27 | 100 | 84 | 69 | 35 | 30 | 26 | 31 | 71 |
| 10 | 292 | 27 | | | | | | | | |
| 20 | 290 | 24 | | | | | | | | |
| 30 | 288 | 24 | 104 | 98 | 82 | 26 | 24 | 20 | | |
| 40 | 295 | 24 | | | | | | | | |
| 50 | 295 | 26 | | | | | | | | |
| 22:00 | 298 | 27 | 110 | 90 | 72 | 26 | 22 | 19 | 30 | 72 |
| 10 | 295 | 29 | | | | | | | | |
| 20 | 293 | 26 | | | | | | | | |
| 30 | 293 | 24 | 89 | 73 | 60 | 28 | 20 | 17 | | |
| 40 | 283 | 22 | | | | | | | | |
| 50 | 286 | 23 | | | | | | | | |
| 23:00 | 287 | 18 | 112 | 85 | 71 | 24 | 21 | 28 | 28 | 73 |

## METEOROLOGICAL MEASUREMENTS ON KMOX-TV TOWER

Data on wind velocity and vertical temperature difference collected on the KMOX-TV Tower are presented in Tables 17 and 18. The period of record is nominally from 1 hour before tracer dissemination began to 1-1/2 hours after the ending for daytime experiments, and to 2 hours after the ending for evening experiments.

For each reporting level* on the tower, Table 17 lists 10-minute averages of wind direction and speed and the first, third, and fifth highest ranges of wind direction and speed during 30-minute intervals. Times (CST) specify the termination of the sampling periods. Direction ranges less than 4 degrees and speed ranges less than 2 miles per hour are not given, since they approach the accuracies of the respective estimations.

Table 18 consists of all available printouts+ of the reference temperature at 124 feet, and of the temperature differences between 249 and 124 feet and between 452 and 124 feet. Either five or six printouts of each element occurred each half-hour. The reference temperature was printed first followed at nominal 2- and 4- minute intervals by the temperature differences for the lower layer and total layer, respectively. Half-hourly arithmetic averages of each of these elements are also presented, being separated from the printouts by a horizontal line. The average values for the listed times (in CST) and the data printouts preceding the listed times are for the preceding half-hour interval.

---

*The Aerovane on the middle level was not installed until May 1964.

+The vertical temperature difference system, in particular, was inoperative during many of the earlier experiments.



Preceding page blank

TABLE 17. WIND MEASUREMENTS, KMOX-TV TOWER

Symbols

D(deg) : Wind direction to the nearest whole degree of azimuth

S(mph) : Wind speed in whole miles per hour

D Range 1, 3, and 5: The first, third, and fifth highest direction ranges in whole degrees of azimuth

S Range 1, 3, and 5: The first, third, and fifth highest speed ranges in whole miles per hour

C : Calm - Wind speed less than the threshold speed of the instrument

\- : Missing data, for wind direction ranges, data either missing or unidentified

Preceding page blank

# Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

27 May 1963 — Experiment No. 2 — Tracer Release from 1410 to 1440 CST

| Time (CST) | Lower Level (127ft) D deg | Lower Level (127ft) S mph | Lower Level (127ft) D Range 1 | Lower Level (127ft) D Range 3 | Lower Level (127ft) D Range 5 | Lower Level (127ft) S Range 1 | Lower Level (127ft) S Range 3 | Lower Level (127ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (499 ft) D deg | Upper Level (499 ft) S mph | Upper Level (499 ft) D Range 1 | Upper Level (499 ft) D Range 3 | Upper Level (499 ft) D Range 5 | Upper Level (499 ft) S Range 1 | Upper Level (499 ft) S Range 3 | Upper Level (499 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13:30 | 280 | 14 | | | | | | | | | | | | | | | 290 | 15 | | | | | | |
| 40 | 288 | 17 | | | | | | | | | | | | | | | 298 | 16 | | | | | | |
| 50 | 300 | 16 | | | | | | | | | | | | | | | 290 | 14 | | | | | | |
| 14:00 | 290 | 16 | 110 | 93 | 78 | 20 | 14 | 10 | | | | | | | | | 296 | 13 | 95 | 80 | 54 | 11 | 9 | 6 |
| 10 | 292 | 18 | | | | | | | | | | | | | | | 305 | 14 | | | | | | |
| 20 | 302 | 16 | | | | | | | | | | | | | | | 302 | 13 | | | | | | |
| 30 | 310 | 15 | 130 | 104 | 92 | 14 | 11 | 9 | | | | | | | | | 302 | 14 | 83 | 70 | 55 | 11 | 9 | 7 |
| 40 | 320 | 15 | | | | | | | | | | | | | | | 300 | 12 | | | | | | |
| 50 | 308 | 14 | | | | | | | | | | | | | | | 305 | 11 | | | | | | |
| 15:00 | 325 | 14 | 104 | 90 | 80 | 14 | 9 | 7 | | | | | | | | | 300 | 9 | 95 | 82 | 62 | 13 | 9 | 8 |
| 10 | 318 | 15 | | | | | | | | | | | | | | | 308 | 10 | | | | | | |
| 20 | 318 | 14 | | | | | | | | | | | | | | | 298 | 13 | | | | | | |
| 30 | 304 | 15 | 135 | 97 | 76 | 11 | 9 | 7 | | | | | | | | | 296 | 13 | 118 | 75 | 55 | 15 | 10 | 7 |
| 40 | 292 | 16 | | | | | | | | | | | | | | | 285 | 13 | | | | | | |
| 50 | 308 | 16 | | | | | | | | | | | | | | | 278 | 14 | | | | | | |
| 16:00 | 320 | 18 | 128 | 92 | 75 | 16 | 12 | 9 | | | | | | | | | 275 | 15 | 85 | 58 | 53 | 13 | 9 | 7 |

28 May 1963 — Experiment No. 3 — Tracer Release from 1000 to 1100 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9:30 | 285 | 20 | | | | | | | | | | | | | | | 265 | 17 | | | | | | |
| 40 | 292 | 18 | | | | | | | | | | | | | | | 270 | 16 | | | | | | |
| 50 | 300 | 20 | | | | | | | | | | | | | | | 278 | 16 | | | | | | |
| 10:00 | 305 | 22 | 110 | 70 | 60 | 15 | 9 | 8 | | | | | | | | | 263 | 16 | 65 | 42 | 40 | 13 | 10 | 8 |
| 10 | 298 | 20 | | | | | | | | | | | | | | | 272 | 16 | | | | | | |
| 20 | 287 | 20 | | | | | | | | | | | | | | | 278 | 16 | | | | | | |
| 30 | 290 | 20 | 108 | 60 | 52 | 13 | 8 | 6 | | | | | | | | | 280 | 16 | 92 | 68 | 45 | 12 | 10 | 9 |
| 40 | 290 | 18 | | | | | | | | | | | | | | | 278 | 16 | | | | | | |
| 50 | 294 | 22 | | | | | | | | | | | | | | | 270 | 16 | | | | | | |
| 11:00 | 287 | 22 | 100 | 65 | 50 | 14 | 8 | 6 | | | | | | | | | 270 | 16 | 75 | 65 | 48 | 13 | 9 | 8 |
| 10 | 290 | 18 | | | | | | | | | | | | | | | 272 | 16 | | | | | | |
| 20 | 290 | 18 | | | | | | | | | | | | | | | 277 | 16 | | | | | | |
| 30 | 290 | 19 | 96 | 60 | 52 | 10 | 7 | 5 | | | | | | | | | 272 | 17 | 80 | 50 | 40 | 14 | 11 | 10 |
| 40 | 298 | 18 | | | | | | | | | | | | | | | 275 | 14 | | | | | | |
| 50 | 291 | 19 | | | | | | | | | | | | | | | 265 | 12 | | | | | | |
| 12:00 | 297 | 19 | 120 | 78 | 48 | 13 | 6 | 4 | | | | | | | | | 280 | 14 | 90 | 65 | 50 | 11 | 10 | 9 |

## Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

19 July 1963 — Experiment No. 4 — Tracer Release from 1130 to 1230 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 215 | 14 | | | | | | | | | | | | | | | 220 | 16 | | | | | | |
| 10 | 210 | 16 | | | | | | | | | | | | | | | 218 | 19 | | | | | | |
| 20 | 216 | 17 | | | | | | | | | | | | | | | 193 | 19 | | | | | | |
| 30 | 208 | 19 | 85 | 70 | 58 | 18 | 16 | 13 | | | | | | | | | 215 | 20 | 90 | 63 | 38 | 21 | 15 | 13 |
| 40 | 222 | 16 | | | | | | | | | | | | | | | 220 | 21 | | | | | | |
| 50 | 215 | 14 | | | | | | | | | | | | | | | 220 | 17 | | | | | | |
| 12:00 | 232 | 14 | 142 | 103 | 96 | 17 | 14 | 11 | | | | | | | | | 228 | 17 | 98 | 80 | 54 | 19 | 13 | 11 |
| 10 | 225 | 14 | | | | | | | | | | | | | | | 222 | 17 | | | | | | |
| 20 | 240 | 16 | | | | | | | | | | | | | | | 235 | 17 | | | | | | |
| 30 | 225 | 17 | 130 | 102 | 78 | 24 | 20 | 14 | | | | | | | | | 221 | 20 | 88 | 70 | 56 | 21 | 16 | 14 |
| 40 | 220 | 15 | | | | | | | | | | | | | | | 220 | 19 | | | | | | |
| 50 | 224 | 18 | | | | | | | | | | | | | | | 220 | 21 | | | | | | |
| 13:00 | 215 | 21 | 118 | 93 | 75 | 22 | 19 | 14 | | | | | | | | | 212 | 22 | 135 | 62 | 52 | 25 | 17 | 13 |
| 10 | 210 | 17 | | | | | | | | | | | | | | | 215 | 23 | | | | | | |
| 20 | 216 | 20 | | | | | | | | | | | | | | | 220 | 21 | | | | | | |
| 30 | 215 | 17 | 110 | 90 | 72 | 21 | 19 | 15 | | | | | | | | | 214 | 20 | 90 | 53 | 25 | 21 | 17 | 14 |

22 July 1963 — Experiment No. 5 — Tracer Release from 1104 to 1204 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:30 | 182 | 10 | | | | | | | | | | | | | | | 195 | 12 | | | | | | |
| 40 | 175 | 10 | | | | | | | | | | | | | | | 195 | 13 | | | | | | |
| 50 | 196 | 10 | | | | | | | | | | | | | | | 190 | 9 | | | | | | |
| 11:00 | 175 | 10 | 135 | 118 | 95 | 11 | 11 | 8 | | | | | | | | | 185 | 11 | 130 | 95 | 82 | 14 | 11 | 9 |
| 10 | 177 | 9 | | | | | | | | | | | | | | | 182 | 13 | | | | | | |
| 20 | 195 | 9 | | | | | | | | | | | | | | | 188 | 13 | | | | | | |
| 30 | 180 | 10 | 182 | 135 | 95 | 11 | 10 | 9 | | | | | | | | | 186 | 11 | 120 | 86 | 72 | 14 | 9 | 8 |
| 40 | 195 | 11 | | | | | | | | | | | | | | | 188 | 14 | | | | | | |
| 50 | 180 | 9 | | | | | | | | | | | | | | | 180 | 13 | | | | | | |
| 12:00 | 162 | 9 | 146 | 100 | 92 | 14 | 10 | 8 | | | | | | | | | 170 | 13 | 147 | 80 | 58 | 14 | 11 | 9 |
| 10 | 155 | 9 | | | | | | | | | | | | | | | 166 | 11 | | | | | | |
| 20 | 163 | 11 | | | | | | | | | | | | | | | 175 | 11 | | | | | | |
| 30 | 157 | 10 | 143 | 103 | 85 | 14 | 11 | 9 | | | | | | | | | 160 | 9 | 138 | 82 | 58 | 13 | 9 | 7 |
| 40 | 160 | 11 | | | | | | | | | | | | | | | 165 | 11 | | | | | | |
| 50 | 142 | 9 | | | | | | | | | | | | | | | 175 | 13 | | | | | | |
| 13:00 | 175 | 11 | 150 | 115 | 98 | 17 | 12 | 11 | | | | | | | | | 180 | 13 | 90 | 80 | 65 | 14 | 11 | 10 |

# Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

23 July 1963 — Experiment No. 6 — Tracer Release from 1130 to 1230 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 155 | 16 | | | | | | | | | | | | | | | 138 | | | | | | | |
| 10 | 145 | 15 | | | | | | | | | | | | | | | 152 | | | | | | | |
| 20 | 155 | 18 | | | | | | | | | | | | | | | 148 | | | | | | | |
| 30 | 157 | 18 | 130 | 104 | 85 | 13 | 10 | 9 | | | | | | | | | 120 | | | | | | | |
| 40 | 144 | 19 | | | | | | | | | | | | | | | 135 | | | | | | | |
| 50 | 153 | 18 | | | | | | | | | | | | | | | 147 | | | | | | | |
| 12:00 | 153 | 19 | 112 | 89 | 75 | 14 | 11 | 9 | | | | | | | | | 132 | | | | | | | |
| 10 | 157 | 17 | | | | | | | | | | | | | | | 155 | | | | | | | |
| 20 | 140 | 20 | | | | | | | | | | | | | | | 136 | | | | | | | |
| 30 | 157 | 18 | 136 | 99 | 78 | 16 | 11 | 9 | | | | | | | | | 125 | | | | | | | |
| 40 | 150 | 18 | | | | | | | | | | | | | | | 132 | | | | | | | |
| 50 | 163 | 17 | | | | | | | | | | | | | | | 105 | | | | | | | |
| 13:00 | 155 | 16 | 146 | 115 | 75 | 14 | 9 | 7 | | | | | | | | | 110 | | | | | | | |
| 10 | 142 | 18 | | | | | | | | | | | | | | | 100 | | | | | | | |
| 20 | 163 | 16 | | | | | | | | | | | | | | | 105 | | | | | | | |
| 30 | 165 | 16 | 140 | 115 | 85 | 16 | 11 | 7 | | | | | | | | | 96 | | | | | | | |

25 July 1963 — Experiment No. 7 — Tracer Release from 1040 to 1140 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft)* D deg | Upper Level (459 ft)* S mph | Upper Level (459 ft)* D Range 1 | Upper Level (459 ft)* D Range 3 | Upper Level (459 ft)* D Range 5 | Upper Level (459 ft)* S Range 1 | Upper Level (459 ft)* S Range 3 | Upper Level (459 ft)* S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:10 | 152 | 8 | | | | | | | | | | | | | | | 155 | 9 | | | | | | |
| 20 | 138 | 10 | | | | | | | | | | | | | | | 153 | 8 | | | | | | |
| 30 | 153 | 8 | | | | | | | | | | | | | | | 150 | 10 | | | | | | |
| 40 | 150 | 8 | 223 | 142 | 110 | 13 | 11 | 9 | | | | | | | | | 153 | 9 | | | | | | |
| 50 | 130 | 9 | | | | | | | | | | | | | | | 153 | 9 | | | | | | |
| 11:00 | 140 | 11 | | | | | | | | | | | | | | | 150 | 9 | | | | | | |
| 10 | 120 | 13 | 190 | 146 | 122 | 17 | 14 | 11 | | | | | | | | | 134 | 7 | | | | | | |
| 20 | 120 | 14 | | | | | | | | | | | | | | | 142 | 9 | | | | | | |
| 30 | 120 | 13 | | | | | | | | | | | | | | | 132 | 10 | | | | | | |
| 40 | 143 | 11 | 185 | 142 | 110 | 16 | 14 | 11 | | | | | | | | | 150 | 10 | | | | | | |
| 50 | 120 | 12 | | | | | | | | | | | | | | | 150 | 7 | | | | | | |
| 12:00 | 135 | 10 | | | | | | | | | | | | | | | 158 | 9 | | | | | | |
| 10 | 150 | 9 | 162 | 125 | 95 | 17 | 14 | 10 | | | | | | | | | 155 | 11 | | | | | | |
| 20 | 140 | 11 | | | | | | | | | | | | | | | 145 | 9 | | | | | | |
| 30 | 126 | 12 | | | | | | | | | | | | | | | 148 | 9 | | | | | | |
| 40 | 146 | 10 | 162 | 122 | 93 | 21 | 11 | 9 | | | | | | | | | 145 | 9 | | | | | | |

*The instrument boom was located on the Northwest corner of the KMOX tower. With a southeast wind the tower structure created turbulence which gave unreliable wind traces.

## Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

26 July 1963 — Experiment No. 8 — Tracer Release from 1045 to 1145 CST

| Time (CST) | Lower Level (127 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 | Middle Level (255 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 | Upper Level (459 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:10 | 148 | 13 | | | | | | | | | | | | | | | 156 | 13 | | | | | | |
| 20 | 148 | 10 | | | | | | | | | | | | | | | 152 | 13 | | | | | | |
| 30 | 140 | 13 | | | | | | | | | | | | | | | 158 | 13 | | | | | | |
| 40 | 150 | 12 | 190 | 124 | 105 | 16 | 13 | 12 | | | | | | | | | 160 | 12 | 250 | 173 | 128 | 20 | 17 | 14 |
| 50 | 160 | 14 | | | | | | | | | | | | | | | 158 | 16 | | | | | | |
| 11:00 | 160 | 12 | | | | | | | | | | | | | | | 160 | 14 | | | | | | |
| 10 | 157 | 14 | 165 | 128 | 108 | 17 | 15 | 13 | | | | | | | | | 160 | 16 | 110 | 88 | 72 | 17 | 14 | 13 |
| 20 | 148 | 12 | | | | | | | | | | | | | | | 158 | 14 | | | | | | |
| 30 | 163 | 11 | | | | | | | | | | | | | | | 172 | 15 | | | | | | |
| 40 | 175 | 11 | 220 | 132 | 108 | 17 | 15 | 13 | | | | | | | | | 164 | 16 | 152 | 92 | 75 | 17 | 14 | 12 |
| 50 | 163 | 13 | | | | | | | | | | | | | | | 170 | 18 | | | | | | |
| 12:00 | 170 | 13 | | | | | | | | | | | | | | | 170 | 17 | | | | | | |
| 10 | 150 | 11 | 180 | 130 | 112 | 14 | 11 | 9 | | | | | | | | | 158 | 15 | 132 | 86 | 70 | 17 | 16 | 13 |
| 20 | 160 | 11 | | | | | | | | | | | | | | | 163 | 15 | | | | | | |
| 30 | 155 | 11 | | | | | | | | | | | | | | | 165 | 14 | | | | | | |
| 40 | 165 | 9 | 160 | 132 | 115 | 17 | 14 | 10 | | | | | | | | | 170 | 16 | 180 | 114 | 90 | 21 | 17 | 15 |

12 September 1963 — Experiment No. 9 — Tracer Release from 1115 to 1215 CST

| Time (CST) | Lower Level (127 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 | Middle Level (255 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 | Upper Level (459 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:50 | 320 | 9 | | | | | | | | | | | | | | | 335 | 11 | | | | | | |
| 11:00 | 312 | 9 | | | | | | | | | | | | | | | 317 | 12 | | | | | | |
| 10 | 315 | 11 | | | | | | | | | | | | | | | 335 | 13 | | | | | | |
| 20 | 325 | 14 | 152 | 125 | 112 | 14 | 11 | 9 | | | | | | | | | 340 | 14 | 148 | 98 | 75 | 13 | 9 | 7 |
| 30 | 340 | 13 | | | | | | | | | | | | | | | 343 | 14 | | | | | | |
| 40 | 335 | 13 | | | | | | | | | | | | | | | 340 | 15 | | | | | | |
| 50 | 330 | 14 | 135 | 114 | 100 | 14 | 11 | 9 | | | | | | | | | 342 | 14 | 120 | 88 | 62 | 14 | 8 | 6 |
| 12:00 | 329 | 14 | | | | | | | | | | | | | | | 335 | 17 | | | | | | |
| 10 | 333 | 15 | | | | | | | | | | | | | | | 350 | 16 | | | | | | |
| 20 | 350 | 14 | 152 | 110 | 87 | 15 | 11 | 9 | | | | | | | | | 342 | 15 | 82 | 60 | 58 | 15 | 8 | 6 |
| 30 | 323 | 12 | | | | | | | | | | | | | | | 342 | 16 | | | | | | |
| 40 | 342 | 13 | | | | | | | | | | | | | | | 354 | 15 | | | | | | |
| 50 | 340 | 14 | 143 | 120 | 93 | 14 | 11 | 10 | | | | | | | | | 350 | 14 | 92 | 62 | 50 | 12 | 7 | 6 |
| 13:00 | 328 | 14 | | | | | | | | | | | | | | | 338 | 16 | | | | | | |
| 10 | 300 | 12 | | | | | | | | | | | | | | | 326 | 14 | | | | | | |
| 20 | 320 | 14 | 158 | 122 | 103 | 15 | 14 | 12 | | | | | | | | | 340 | 16 | 98 | 72 | 60 | 14 | 9 | 7 |

## Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

14 September 1963 — Experiment No. 10 — Tracer Release from 1045 to 1145 CST

| Time | Lower Level (127 ft) | | | | | | | | | Middle Level (255 ft) | | | | | | | | | Upper Level (459 ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D | S | D Range | | | S Range | | | | D | S | D Range | | | S Range | | | | D | S | D Range | | | S Range | | | |
| (CST) | deg | mph | 1 | 3 | 5 | 1 | 3 | 5 | | deg | mph | 1 | 3 | 5 | 1 | 3 | 5 | | deg | mph | 1 | 3 | 5 | 1 | 3 | 5 | |
| 10:20 | 060 | 6 | | | | | | | | | | | | | | | | | 060 | 6 | | | | | | | |
| 30 | 053 | 8 | | | | | | | | | | | | | | | | | 052 | 6 | | | | | | | |
| 40 | 060 | 7 | | | | | | | | | | | | | | | | | 059 | 6 | | | | | | | |
| 50 | 043 | 7 | 132 | 104 | 75 | 7 | 6 | 6 | | | | | | | | | | | 062 | 6 | 108 | 82 | 68 | 7 | 5 | 4 | |
| 11:00 | 020 | 7 | | | | | | | | | | | | | | | | | 039 | 6 | | | | | | | |
| 10 | 044 | 8 | | | | | | | | | | | | | | | | | 052 | 7 | | | | | | | |
| 20 | 060 | 7 | 128 | 106 | 88 | 10 | 9 | 7 | | | | | | | | | | | 070 | 6 | 110 | 90 | 72 | 9 | 6 | 6 | |
| 30 | 065 | 10 | | | | | | | | | | | | | | | | | 065 | 9 | | | | | | | |
| 40 | 068 | 10 | | | | | | | | | | | | | | | | | 073 | 10 | | | | | | | |
| 50 | 072 | 11 | 107 | 75 | 60 | 10 | 9 | 7 | | | | | | | | | | | 083 | 10 | 104 | 62 | 52 | 10 | 8 | 6 | |
| 12:00 | 062 | 12 | | | | | | | | | | | | | | | | | 075 | 11 | | | | | | | |
| 10 | 050 | 10 | | | | | | | | | | | | | | | | | 068 | 9 | | | | | | | |
| 20 | 062 | 9 | 140 | 85 | 70 | 10 | 9 | 7 | | | | | | | | | | | 076 | 10 | 80 | 75 | 45 | 7 | 6 | 5 | |
| 30 | 061 | 9 | | | | | | | | | | | | | | | | | 072 | 8 | | | | | | | |
| 40 | 050 | 10 | | | | | | | | | | | | | | | | | 062 | 9 | | | | | | | |
| 50 | 080 | 8 | 155 | 108 | 90 | 11 | 9 | 6 | | | | | | | | | | | 090 | 9 | 125 | 95 | 75 | 10 | 8 | 6 | |

14 September 1963 — Experiment No. 11 — Tracer Release from 1100 to 1200 CST

| Time | Lower Level (127 ft) | | | | | | | | | Middle Level (255 ft) | | | | | | | | | Upper Level (459 ft) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D | S | D Range | | | S Range | | | | D | S | D Range | | | S Range | | | | D | S | D Range | | | S Range | | | |
| (CST) | deg | mph | 1 | 3 | 5 | 1 | 3 | 5 | | deg | mph | 1 | 3 | 5 | 1 | 3 | 5 | | deg | mph | 1 | 3 | 5 | 1 | 3 | 5 | |
| 10:30 | 145 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | 140 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 150 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11:00 | 160 | 13 | 155 | 115 | 100 | 21 | 15 | 11 | | | | | | | | | | | | | | | | | | | |
| 10 | 140 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 145 | 11 | | | | | | | | | | | | | | | | | | | MISSING | | | | | | |
| 30 | 150 | 9 | 145 | 125 | 114 | 14 | 12 | 11 | | | | | | | | | | | | | | | | | | | |
| 40 | 150 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 153 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12:00 | 128 | 10 | 170 | 130 | 110 | 17 | 15 | 12 | | | | | | | | | | | | | | | | | | | |
| 10 | 135 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 125 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 132 | 9 | 168 | 118 | 88 | 17 | 14 | 12 | | | | | | | | | | | | | | | | | | | |
| 40 | 140 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 140 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13:00 | 150 | 9 | 158 | 135 | 112 | 14 | 12 | 11 | | | | | | | | | | | | | | | | | | | |

# Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

17 September 1963 — Experiment No. 12 — Tracer Release from 2000 to 2030 CST

| Time (CST) | Lower Level (127 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 | Middle Level (255 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 | Upper Level (459 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19:30 | 142 | 6 | | | | | | | | | | | | | | | | | | | | | | |
| 40 | 138 | 6 | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 150 | 5 | | | | | | | | | | | | | | | | | | | | | | |
| 20:00 | 145 | 6 | 110 | 90 | 72 | 7 | 6 | 6 | | | | | | | | | | | | | | | | |
| 10 | 150 | 5 | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 150 | 6 | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 130 | 5 | 120 | 80 | 78 | 7 | 6 | 6 | | | | | | | | | | | | | | | | |
| 40 | 144 | 5 | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 132 | 6 | | | | | | | | | | | | | | | | | | | | | | |
| 21:00 | 140 | 8 | 118 | 104 | 88 | 9 | 8 | 6 | | | | | | | | | | | | | | | | |
| 10 | 147 | 6 | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 147 | 7 | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 140 | 6 | 130 | 110 | 94 | 8 | 7 | 6 | | | | | | | | | | | | | | | | |
| 40 | 168 | 7 | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 162 | 6 | | | | | | | | | | | | | | | | | | | | | | |
| 22:00 | 168 | 7 | 122 | 102 | 75 | 7 | 7 | 6 | | | | | | | | | | | | | | | | |
| 10 | 162 | 7 | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 160 | 6 | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 158 | 6 | 90 | 75 | 60 | 6 | 6 | 5 | | | | | | | | | | | | | | | | |

MISSING

18 September 1963 — Experiment No. 13 — Tracer Release from 2000 to 2100 CST

| Time (CST) | Lower Level (127 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 | Middle Level (255ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 | Upper Level (459 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19:30 | | | | | | | | | | | | | | | | | 85 | 7 | | | | | | |
| 40 | | | | | | | | | | | | | | | | | 85 | 7 | | | | | | |
| 50 | | | | | | | | | | | | | | | | | 88 | 7 | | | | | | |
| 20:00 | | | | | | | | | | | | | | | | | 88 | 7 | 10 | - | - | <2 | <2 | <2 |
| 10 | | | | | | | | | | | | | | | | | 88 | 7 | | | | | | |
| 20 | | | | | | | | | | | | | | | | | 88 | 6 | | | | | | |
| 30 | | | | | | | | | | | | | | | | | 85 | 5 | 10 | - | - | 3 | <2 | <2 |
| 40 | | | | | | | | | | | | | | | | | 85 | 4 | | | | | | |
| 50 | | | | | | | | | | | | | | | | | 85 | 4 | | | | | | |
| 21:00 | | | | | | | | | | | | | | | | | 102 | 4 | 35 | - | - | <2 | <2 | <2 |
| 10 | | | | | | | | | | | | | | | | | 110 | 4 | | | | | | |
| 20 | | | | | | | | | | | | | | | | | 120 | 4 | | | | | | |
| 30 | | | | | | | | | | | | | | | | | 125 | 4 | 20 | - | - | <2 | <2 | <2 |
| 40 | | | | | | | | | | | | | | | | | 130 | 4 | | | | | | |
| 50 | | | | | | | | | | | | | | | | | 125 | 4 | | | | | | |
| 22:00 | | | | | | | | | | | | | | | | | 118 | 4 | 22 | - | - | <2 | <2 | <2 |
| 10 | | | | | | | | | | | | | | | | | 110 | 4 | | | | | | |
| 20 | | | | | | | | | | | | | | | | | 104 | 4 | | | | | | |
| 30 | | | | | | | | | | | | | | | | | 155 | 4 | 90 | - | - | <2 | <2 | <2 |
| 40 | | | | | | | | | | | | | | | | | 210 | 7 | | | | | | |
| 50 | | | | | | | | | | | | | | | | | 200 | 9 | | | | | | |
| | | | | | | | | | | | | | | | | | 195 | 8 | 58 | 32 | 28 | 3 | <2 | <2 |

MISSING

# Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

1 April 1964 — Experiment No. 14 — Tracer Release from 1200 to 1300 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:30 | 137 | 10 | | | | | | | | | | | | | | | - | 14 | | | | | | |
| 40 | 139 | 11 | | | | | | | | | | | | | | | - | 16 | | | | | | |
| 50 | 147 | 10 | | | | | | | | | | | | | | | - | 14 | | | | | | |
| 12:00 | 139 | 11 | 134 | 115 | 97 | 18 | 16 | 14 | | | | | | | | | - | 11 | - | - | - | 22 | 20 | 17 |
| 10 | 139 | 12 | | | | | | | | | | | | | | | - | 8 | | | | | | |
| 20 | 145 | 10 | | | | | | | | | | | | | | | - | 12 | | | | | | |
| 30 | 142 | 12 | 120 | 95 | 82 | 18 | 16 | 14 | | | | | | | | | - | 11 | - | - | - | 21 | 19 | 16 |
| 40 | 129 | 14 | | | | | | | | | | | | | | | - | 7 | | | | | | |
| 50 | 125 | 15 | | | | | | | | | | | | | | | - | 11 | | | | | | |
| 13:00 | 142 | 13 | 130 | 90 | 72 | 21 | 18 | 16 | | | | | | | | | - | 8 | - | - | - | 20 | 17 | 17 |
| 10 | 145 | 12 | | | | | | | | | | | | | | | - | 8 | | | | | | |
| 20 | 139 | 11 | | | | | | | | | | | | | | | - | 10 | | | | | | |
| 30 | 127 | 11 | 140 | 95 | 78 | 23 | 18 | 15 | | | | | | | | | - | 11 | - | - | - | 22 | 21 | 18 |
| 40 | 131 | 11 | | | | | | | | | | | | | | | - | 14 | | | | | | |
| 50 | 142 | 10 | | | | | | | | | | | | | | | - | 16 | | | | | | |
| 14:00 | 137 | 11 | 138 | 112 | 96 | 21 | 17 | 14 | | | | | | | | | - | 13 | - | - | - | 24 | 23 | 20 |

6 April 1964 — Experiment No. 15 — Tracer Release from 2040 to 2140 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20:10 | 170 | 7 | | | | | | | | | | | | | | | 185 | 23 | | | | | | |
| 20 | 188 | 9 | | | | | | | | | | | | | | | 198 | 27 | | | | | | |
| 30 | 178 | 12 | | | | | | | | | | | | | | | 190 | 30 | | | | | | |
| 40 | 175 | 14 | 102 | 79 | 65 | 21 | 15 | 13 | | | | | | | | | 195 | 33 | 70 | 50 | 42 | 27 | 19 | 17 |
| 50 | 183 | 13 | | | | | | | | | | | | | | | 195 | 32 | | | | | | |
| 21:00 | 190 | 15 | | | | | | | | | | | | | | | 216 | 36 | | | | | | |
| 10 | 239 | 17 | 164 | 135 | 120 | 22 | 18 | 16 | | | | | | | | | 260 | 32 | 132 | 115 | 106 | 32 | 22 | 17 |
| 20 | 261 | 13 | | | | | | | | | | | | | | | 258 | 36 | | | | | | |
| 30 | 218 | 7 | | | | | | | | | | | | | | | 250 | 20 | | | | | | |
| 40 | 235 | 8 | 134 | 105 | 85 | 19 | 15 | 11 | | | | | | | | | 250 | 19 | 75 | 58 | 45 | 25 | 18 | 13 |
| 50 | 241 | 9 | | | | | | | | | | | | | | | 255 | 24 | | | | | | |
| 22:00 | 238 | 8 | | | | | | | | | | | | | | | 252 | 21 | | | | | | |
| 10 | 240 | 5 | 75 | 58 | 42 | 9 | 7 | 6 | | | | | | | | | 250 | 16 | 45 | 28 | 22 | 7 | 6 | 6 |
| 20 | 225 | 6 | | | | | | | | | | | | | | | 242 | 18 | | | | | | |
| 30 | 217 | 7 | | | | | | | | | | | | | | | 240 | 21 | | | | | | |
| 40 | 212 | 7 | 63 | 52 | 38 | 9 | 7 | 7 | | | | | | | | | 238 | 18 | 52 | 30 | 25 | 9 | 8 | 6 |
| 50 | 202 | 9 | | | | | | | | | | | | | | | 222 | 18 | | | | | | |
| 23:00 | 187 | 8 | | | | | | | | | | | | | | | 212 | 18 | | | | | | |
| 10 | 247 | 6 | 123 | 102 | 90 | 10 | 7 | 6 | | | | | | | | | 265 | 11 | 138 | 118 | 60 | 17 | 11 | 6 |
| 20 | 250 | 6 | | | | | | | | | | | | | | | 268 | 11 | | | | | | |
| 30 | 211 | 5 | | | | | | | | | | | | | | | 248 | 7 | | | | | | |
| 40 | 165 | 8 | 115 | 52 | 38 | 11 | 7 | 7 | | | | | | | | | 198 | 7 | 105 | 42 | 20 | 7 | 2 | <2 |

# Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

7 April 1964 — Experiment No. 16 — Tracer Release from 2048 to 2148 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20:20 | 281 | 14 | | | | | | | | | | | | | | | 280 | 17 | | | | | | |
| 30 | 276 | 14 | | | | | | | | | | | | | | | 283 | 22 | | | | | | |
| 40 | 283 | 16 | | | | | | | | | | | | | | | 284 | 22 | | | | | | |
| 50 | 275 | 14 | 128 | 112 | 100 | 17 | 15 | 12 | | | | | | | | | 292 | 23 | 88 | 70 | 58 | 15 | 11 | 9 |
| 21:00 | 280 | 14 | | | | | | | | | | | | | | | 290 | 22 | | | | | | |
| 10 | 283 | 14 | | | | | | | | | | | | | | | 280 | 20 | | | | | | |
| 20 | 279 | 15 | 130 | 106 | 95 | 17 | 15 | 12 | | | | | | | | | 290 | 22 | 100 | 78 | 62 | 16 | 14 | 10 |
| 30 | 283 | 14 | | | | | | | | | | | | | | | 285 | 23 | | | | | | |
| 40 | 276 | 14 | | | | | | | | | | | | | | | 282 | 23 | | | | | | |
| 50 | 288 | 11 | 130 | 105 | 95 | 18 | 16 | 13 | | | | | | | | | 290 | 19 | 100 | 82 | 72 | 17 | 16 | 15 |
| 22:00 | 289 | 13 | | | | | | | | | | | | | | | 290 | 22 | | | | | | |
| 10 | 288 | 16 | | | | | | | | | | | | | | | 298 | 21 | | | | | | |
| 20 | 291 | 14 | 122 | 105 | 95 | 18 | 16 | 14 | | | | | | | | | 292 | 24 | 102 | 80 | 68 | 18 | 16 | 14 |
| 30 | 300 | 16 | | | | | | | | | | | | | | | 308 | 25 | | | | | | |
| 40 | 302 | 18 | | | | | | | | | | | | | | | 305 | 23 | | | | | | |
| 50 | 305 | 18 | 110 | 103 | 88 | 19 | 17 | 15 | | | | | | | | | 297 | 24 | 104 | 80 | 68 | 18 | 15 | 12 |
| 23:00 | 309 | 18 | | | | | | | | | | | | | | | 308 | 27 | | | | | | |
| 10 | 306 | 19 | | | | | | | | | | | | | | | 302 | 23 | | | | | | |
| 20 | 300 | 16 | 108 | 94 | 82 | 18 | 15 | 13 | | | | | | | | | 294 | 23 | 88 | 65 | 56 | 16 | 14 | 12 |
| 30 | 304 | 18 | | | | | | | | | | | | | | | 308 | 25 | | | | | | |
| 40 | 301 | 19 | | | | | | | | | | | | | | | 300 | 23 | | | | | | |
| 50 | 291 | 16 | 122 | 107 | 92 | 18 | 16 | 14 | | | | | | | | | 300 | 24 | 82 | 72 | 60 | 16 | 11 | 9 |
| 24:00 | 308 | 17 | | | | | | | | | | | | | | | 297 | 23 | | | | | | |

8 April 1964 — Experiment No. 17 — Tracer Release from 2030 to 2130 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20:00 | 229 | 10 | | | | | | | | | | | | | | | 240 | 18 | | | | | | |
| 10 | 229 | 12 | | | | | | | | | | | | | | | 232 | 16 | | | | | | |
| 20 | 231 | 14 | | | | | | | | | | | | | | | 232 | 18 | | | | | | |
| 30 | 229 | 13 | 64 | 52 | 42 | 9 | 7 | 6 | | | | | | | | | 230 | 18 | 36 | 32 | 22 | 9 | 7 | 6 |
| 40 | 232 | 13 | | | | | | | | | | | | | | | 233 | 17 | | | | | | |
| 50 | 234 | 11 | | | | | | | | | | | | | | | 233 | 18 | | | | | | |
| 21:00 | 231 | 13 | 62 | 48 | 40 | 9 | 7 | 6 | | | | | | | | | 238 | 18 | 50 | 38 | 30 | 9 | 7 | 6 |
| 10 | 231 | 12 | | | | | | | | | | | | | | | 235 | 18 | | | | | | |
| 20 | 235 | 13 | | | | | | | | | | | | | | | 235 | 19 | | | | | | |
| 30 | 240 | 12 | 65 | 45 | 40 | 11 | 9 | 7 | | | | | | | | | 232 | 18 | 48 | 40 | 32 | 9 | 7 | 6 |
| 40 | 240 | 12 | | | | | | | | | | | | | | | 232 | 19 | | | | | | |
| 50 | 244 | 14 | | | | | | | | | | | | | | | 238 | 20 | | | | | | |
| 22:00 | 230 | 12 | 63 | 52 | 40 | 9 | 7 | 6 | | | | | | | | | 234 | 19 | 65 | 48 | 40 | 11 | 9 | 7 |
| 10 | 234 | 12 | | | | | | | | | | | | | | | 235 | 21 | | | | | | |
| 20 | 241 | 12 | | | | | | | | | | | | | | | 238 | 21 | | | | | | |
| 30 | 242 | 12 | 90 | 75 | 58 | 9 | 7 | 6 | | | | | | | | | 238 | 21 | 52 | 42 | 30 | 9 | 7 | 6 |
| 40 | 238 | 12 | | | | | | | | | | | | | | | 235 | 23 | | | | | | |
| 50 | 218 | 11 | | | | | | | | | | | | | | | 238 | 21 | | | | | | |
| 23:00 | 219 | 10 | 70 | 59 | 48 | 14 | 9 | 7 | | | | | | | | | 242 | 21 | 45 | 32 | 23 | 8 | 6 | 5 |
| 10 | 220 | 12 | | | | | | | | | | | | | | | 242 | 20 | | | | | | |
| 20 | 220 | 11 | | | | | | | | | | | | | | | 241 | 18 | | | | | | |
| 30 | 215 | 10 | 75 | 55 | 42 | 10 | 8 | 7 | | | | | | | | | 248 | 18 | 52 | 39 | 28 | 9 | 6 | 5 |

# Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

9 April 1964 — Experiment No. 18 — Tracer Release from 2045 to 2145 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20:20 | 195 | 7 | | | | | | | | | | | | | | | 200 | 17 | | | | | | |
| 30 | 193 | 8 | | | | | | | | | | | | | | | 200 | 17 | | | | | | |
| 40 | 193 | 9 | | | | | | | | | | | | | | | 204 | 19 | | | | | | |
| 50 | 193 | 8 | 42 | 38 | 20 | 6 | 4 | 3 | | | | | | | | | 208 | 19 | 20 | 15 | 12 | 4 | <2 | <2 |
| 21:00 | 198 | 8 | | | | | | | | | | | | | | | 210 | 20 | | | | | | |
| 10 | 195 | 9 | | | | | | | | | | | | | | | 204 | 19 | | | | | | |
| 20 | 191 | 8 | 52 | 35 | 25 | 6 | 4 | 3 | | | | | | | | | 198 | 18 | 29 | 15 | 13 | 2 | <2 | <2 |
| 30 | 195 | 7 | | | | | | | | | | | | | | | 205 | 19 | | | | | | |
| 40 | 193 | 7 | | | | | | | | | | | | | | | 205 | 19 | | | | | | |
| 50 | 191 | 9 | 64 | 40 | 28 | 7 | 6 | 5 | | | | | | | | | 200 | 19 | 22 | 13 | 9 | 5 | 2 | <2 |
| 22:00 | 193 | 7 | | | | | | | | | | | | | | | 200 | 19 | | | | | | |
| 10 | 189 | 5 | | | | | | | | | | | | | | | 195 | 20 | | | | | | |
| 20 | 170 | 6 | 80 | 58 | 44 | 8 | 6 | 5 | | | | | | | | | 183 | 19 | 33 | 22 | 12 | 7 | 2 | 2 |
| 30 | 171 | 7 | | | | | | | | | | | | | | | 185 | 19 | | | | | | |
| 40 | 173 | 9 | | | | | | | | | | | | | | | 188 | 23 | | | | | | |
| 50 | 175 | 9 | 98 | 58 | 42 | 9 | 6 | 5 | | | | | | | | | 188 | 23 | 42 | 21 | 11 | 8 | 6 | 5 |
| 23:00 | 179 | 8 | | | | | | | | | | | | | | | 187 | 22 | | | | | | |
| 10 | 175 | 9 | | | | | | | | | | | | | | | 182 | 21 | | | | | | |
| 20 | 175 | 9 | 79 | 58 | 43 | 7 | 6 | 5 | | | | | | | | | 184 | 22 | 32 | 23 | 16 | 4 | 3 | 2 |
| 30 | 183 | 8 | | | | | | | | | | | | | | | 186 | 21 | | | | | | |
| 40 | 183 | 8 | | | | | | | | | | | | | | | 185 | 21 | | | | | | |
| 50 | 193 | 8 | 65 | 53 | 38 | 7 | 6 | 6 | | | | | | | | | 185 | 21 | 42 | 30 | 21 | 7 | 5 | 3 |
| 24:00 | 193 | 7 | | | | | | | | | | | | | | | 188 | 21 | | | | | | |

2 June 1964 — Experiment No. 19 — Tracer Release from 1030 to 1130 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:00 | 285 | 9 | | | | | | | 292 | 12 | | | | | | | 298 | 12 | | | | | | |
| 10 | 292 | 13 | | | | | | | 285 | 14 | | | | | | | 290 | 14 | | | | | | |
| 20 | 275 | 12 | | | | | | | 270 | 14 | | | | | | | 290 | 15 | | | | | | |
| 30 | 305 | 11 | 134 | 112 | 92 | 11 | 8 | 7 | 299 | 14 | 126 | 102 | 82 | 16 | 10 | 8 | 303 | 14 | 92 | 72 | 59 | 11 | 9 | 7 |
| 40 | 310 | 13 | | | | | | | 300 | 14 | | | | | | | 305 | 16 | | | | | | |
| 50 | 292 | 9 | | | | | | | 282 | 12 | | | | | | | 282 | 14 | | | | | | |
| 11:00 | 270 | 14 | 142 | 119 | 95 | 14 | 8 | 7 | 276 | 16 | 128 | 98 | 80 | 18 | 9 | 7 | 282 | 15 | 115 | 98 | 78 | 15 | 11 | 8 |
| 10 | 262 | 12 | | | | | | | 259 | 14 | | | | | | | 268 | 14 | | | | | | |
| 20 | 275 | 14 | | | | | | | 278 | 14 | | | | | | | 282 | 14 | | | | | | |
| 30 | 285 | 11 | 148 | 122 | 105 | 14 | 9 | 8 | 295 | 12 | 130 | 104 | 90 | 15 | 10 | 8 | 295 | 13 | 122 | 100 | 82 | 10 | 7 | 6 |
| 40 | 270 | 14 | | | | | | | 269 | 15 | | | | | | | 280 | 15 | | | | | | |
| 50 | 305 | 12 | | | | | | | 309 | 14 | | | | | | | 303 | 14 | | | | | | |
| 12:00 | 285 | 14 | 160 | 126 | 108 | 16 | 12 | 8 | 278 | 15 | 130 | 102 | 86 | 14 | 9 | 7 | 280 | 15 | 122 | 90 | 75 | 14 | 8 | 7 |
| 10 | 298 | 12 | | | | | | | 298 | 16 | | | | | | | 300 | 16 | | | | | | |
| 20 | 314 | 12 | | | | | | | 308 | 14 | | | | | | | 300 | 14 | | | | | | |
| 30 | 285 | 14 | 132 | 116 | 95 | 14 | 9 | 8 | 279 | 15 | 132 | 94 | 74 | 16 | 9 | 7 | 258 | 15 | 107 | 76 | 60 | 14 | 9 | 7 |

## Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

3 June 1964 — Experiment No. 20 — Tracer Release from 1040 to 1140 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:20 | 210 | 7 | | | | | | | 212 | 7 | | | | | | | 230 | 8 | | | | | | |
| 30 | 208 | 8 | | | | | | | 222 | 9 | | | | | | | 225 | 8 | | | | | | |
| 40 | 230 | 7 | | | | | | | 235 | 8 | | | | | | | 235 | 7 | | | | | | |
| 50 | 252 | 10 | 190 | 165 | 130 | 12 | 9 | 7 | 253 | 10 | 198 | 162 | 142 | 10 | 8 | 6 | 252 | 9 | 152 | 123 | 103 | 13 | 8 | 7 |
| 11:00 | 238 | 7 | | | | | | | 246 | 7 | | | | | | | 270 | 7 | | | | | | |
| 10 | 280 | 9 | | | | | | | 282 | 11 | | | | | | | 270 | 11 | | | | | | |
| 20 | 270 | 7 | 200 | 152 | 114 | 12 | 9 | 7 | 280 | 7 | 203 | 158 | 122 | 15 | 11 | 9 | 270 | 8 | 139 | 115 | 92 | 11 | 9 | 7 |
| 30 | 240 | 10 | | | | | | | 240 | 11 | | | | | | | 242 | 10 | | | | | | |
| 40 | 235 | 7 | | | | | | | 236 | 10 | | | | | | | 242 | 8 | | | | | | |
| 50 | 258 | 10 | 127 | 104 | 96 | 10 | 8 | 7 | 256 | 10 | 142 | 110 | 85 | 13 | 11 | 9 | 240 | 9 | 116 | 83 | 65 | 11 | 9 | 7 |
| 12:00 | 235 | 7 | | | | | | | 245 | 8 | | | | | | | 222 | 9 | | | | | | |
| 10 | 240 | 9 | | | | | | | 248 | 9 | | | | | | | 252 | 9 | | | | | | |
| 20 | 300 | 3 | 202 | 166 | 130 | 10 | 8 | 7 | 275 | 8 | 175 | 146 | 120 | 13 | 9 | 8 | 258 | 8 | 208 | 150 | 128 | 14 | 9 | 7 |
| 30 | 240 | 7 | | | | | | | 230 | 9 | | | | | | | 230 | 9 | | | | | | |
| 40 | 248 | 9 | | | | | | | 239 | 9 | | | | | | | 238 | 8 | | | | | | |
| 50 | 272 | 9 | 222 | 191 | 155 | 12 | 9 | 8 | 268 | 11 | 226 | 182 | 170 | 14 | 10 | 7 | 262 | 10 | 168 | 122 | 110 | 10 | 8 | 6 |

4 June 1964 — Experiment No. 21 — Tracer Release from 1030 to 1130 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:00 | 172 | 8 | | | | | | | 180 | 9 | | | | | | | 190 | 9 | | | | | | |
| 10 | 186 | 8 | | | | | | | 178 | 10 | | | | | | | 180 | 9 | | | | | | |
| 20 | 182 | 7 | | | | | | | 188 | 8 | | | | | | | 188 | 7 | | | | | | |
| 30 | 205 | 6 | 159 | 118 | 96 | 8 | 6 | 5 | 192 | 7 | 118 | 96 | 72 | 9 | 7 | 6 | 180 | 7 | 142 | 95 | 62 | 9 | 7 | 6 |
| 40 | 180 | 6 | | | | | | | 180 | 7 | | | | | | | 183 | 6 | | | | | | |
| 50 | 150 | 7 | | | | | | | 158 | 8 | | | | | | | 165 | 9 | | | | | | |
| 11:00 | 162 | 8 | 180 | 135 | 120 | 9 | 7 | 6 | 152 | 7 | 142 | 101 | 85 | 9 | 7 | 6 | 162 | 7 | 185 | 85 | 56 | 9 | 7 | 6 |
| 10 | 152 | 7 | | | | | | | 138 | 6 | | | | | | | 162 | 7 | | | | | | |
| 20 | 160 | 5 | | | | | | | 148 | 5 | | | | | | | 168 | 7 | | | | | | |
| 30 | 126 | 6 | 198 | 156 | 128 | 8 | 7 | 6 | 150 | 5 | 108 | 90 | 78 | 8 | 7 | 7 | 152 | 4 | 160 | 122 | 90 | 9 | 8 | 8 |
| 40 | 118 | 7 | | | | | | | 130 | 6 | | | | | | | 150 | 5 | | | | | | |
| 50 | 150 | 6 | | | | | | | 138 | 5 | | | | | | | 150 | 4 | | | | | | |
| 12:00 | 135 | 5 | 146 | 125 | 108 | 10 | 7 | 6 | 125 | 6 | 132 | 115 | 88 | 8 | 7 | 6 | 158 | 4 | 208 | 138 | 110 | 9 | 8 | 7 |
| 10 | 135 | 7 | | | | | | | 120 | 7 | | | | | | | 152 | 3 | | | | | | |
| 20 | 112 | 8 | | | | | | | 120 | 7 | | | | | | | 168 | 3 | | | | | | |
| 30 | 110 | 8 | 126 | 105 | 85 | 10 | 7 | 7 | 112 | 7 | 130 | 90 | 70 | 9 | 8 | 7 | 140 | 4 | 220 | 185 | 159 | 8 | 6 | 6 |

## Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

6 June 1964 — Experiment No. 22 — Tracer Release from 1130 to 1230 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255ft) D deg | Middle Level (255ft) S mph | Middle Level (255ft) D Range 1 | Middle Level (255ft) D Range 3 | Middle Level (255ft) D Range 5 | Middle Level (255ft) S Range 1 | Middle Level (255ft) S Range 3 | Middle Level (255ft) S Range 5 | Upper Level (459ft) D deg | Upper Level (459ft) S mph | Upper Level (459ft) D Range 1 | Upper Level (459ft) D Range 3 | Upper Level (459ft) D Range 5 | Upper Level (459ft) S Range 1 | Upper Level (459ft) S Range 3 | Upper Level (459ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 170 | 7 | | | | | | | 173 | 9 | | | | | | | 174 | 12 | | | | | | |
| 10 | 172 | 11 | | | | | | | 170 | 11 | | | | | | | 177 | 13 | | | | | | |
| 20 | 185 | 9 | | | | | | | 180 | 9 | | | | | | | 182 | 11 | | | | | | |
| 30 | 172 | 9 | 145 | 98 | 72 | 15 | 8 | 6 | 175 | 13 | 100 | 72 | 63 | 14 | 9 | 7 | 180 | 14 | 110 | 74 | 53 | 10 | 7 | 6 |
| 40 | 188 | 9 | | | | | | | 182 | 12 | | | | | | | 178 | 14 | | | | | | |
| 50 | 180 | 11 | | | | | | | 184 | 11 | | | | | | | 187 | 15 | | | | | | |
| 12:00 | 188 | 9 | 165 | 94 | 75 | 14 | 10 | 7 | 178 | 11 | 138 | 77 | 62 | 11 | 10 | 8 | 183 | 13 | 88 | 62 | 46 | 11 | 9 | 6 |
| 10 | 192 | 9 | | | | | | | 185 | 10 | | | | | | | 180 | 12 | | | | | | |
| 20 | 190 | 11 | | | | | | | 180 | 14 | | | | | | | 182 | 15 | | | | | | |
| 30 | 191 | 9 | 145 | 103 | 75 | 15 | 9 | 7 | 190 | 11 | 142 | 94 | 69 | 14 | 12 | 8 | 194 | 12 | 120 | 94 | 71 | 16 | 11 | 9 |
| 40 | 173 | 8 | | | | | | | 183 | 9 | | | | | | | 175 | 11 | | | | | | |
| 50 | 187 | 8 | | | | | | | 178 | 9 | | | | | | | 182 | 12 | | | | | | |
| 13:00 | 185 | 9 | 154 | 118 | 99 | 12 | 10 | 8 | 182 | 13 | 144 | 110 | 85 | 14 | 10 | 8 | 185 | 14 | 110 | 82 | 65 | 12 | 9 | 7 |
| 10 | 186 | 9 | | | | | | | 181 | 12 | | | | | | | 184 | 13 | | | | | | |
| 20 | 172 | 11 | | | | | | | 172 | 13 | | | | | | | 180 | 14 | | | | | | |
| 30 | 170 | 9 | 143 | 120 | 92 | 14 | 10 | 7 | 177 | 11 | 124 | 100 | 73 | 14 | 9 | 7 | 188 | 15 | 118 | 80 | 61 | 11 | 7 | 7 |

7 June 1964 — Experiment No. 23 — Tracer Release from 1132 to 1232 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255ft) D deg | Middle Level (255ft) S mph | Middle Level (255ft) D Range 1 | Middle Level (255ft) D Range 3 | Middle Level (255ft) D Range 5 | Middle Level (255ft) S Range 1 | Middle Level (255ft) S Range 3 | Middle Level (255ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 208 | 10 | | | | | | | 202 | 11 | | | | | | | 204 | 9 | | | | | | |
| 10 | 223 | 9 | | | | | | | 228 | 12 | | | | | | | 212 | 10 | | | | | | |
| 20 | 204 | 10 | | | | | | | 200 | 14 | | | | | | | 204 | 14 | | | | | | |
| 30 | 202 | 11 | 126 | 104 | 89 | 15 | 11 | 9 | 205 | 16 | 122 | 98 | 82 | 18 | 13 | 9 | 210 | 14 | 116 | 88 | 74 | 13 | 10 | 7 |
| 40 | 222 | 13 | | | | | | | 220 | 14 | | | | | | | 222 | 14 | | | | | | |
| 50 | 226 | 14 | | | | | | | 232 | 15 | | | | | | | 233 | 13 | | | | | | |
| 12:00 | 242 | 13 | 160 | 100 | 81 | 14 | 11 | 9 | 238 | 16 | 123 | 92 | 72 | 15 | 11 | 9 | 239 | 12 | 110 | 78 | 62 | 14 | 10 | 8 |
| 10 | 239 | 11 | | | | | | | 232 | 14 | | | | | | | 226 | 14 | | | | | | |
| 20 | 232 | 13 | | | | | | | 232 | 15 | | | | | | | 232 | 14 | | | | | | |
| 30 | 214 | 12 | 132 | 100 | 68 | 11 | 8 | 7 | 213 | 14 | 108 | 82 | 63 | 12 | 10 | 7 | 216 | 13 | 88 | 65 | 54 | 11 | 7 | 6 |
| 40 | 214 | 14 | | | | | | | 220 | 14 | | | | | | | 226 | 13 | | | | | | |
| 50 | 229 | 9 | | | | | | | 226 | 12 | | | | | | | 222 | 12 | | | | | | |
| 13:00 | 210 | 10 | 118 | 98 | 79 | 12 | 10 | 8 | 214 | 10 | 93 | 78 | 68 | 11 | 10 | 8 | 229 | 9 | 108 | 82 | 68 | 12 | 9 | 7 |
| 10 | 250 | 9 | | | | | | | 246 | 9 | | | | | | | 232 | 8 | | | | | | |
| 20 | 240 | 12 | | | | | | | 235 | 13 | | | | | | | 230 | 13 | | | | | | |
| 30 | 233 | 10 | 128 | 105 | 82 | 14 | 10 | 8 | 238 | 13 | 99 | 80 | 63 | 13 | 9 | 7 | 232 | 11 | 122 | 82 | 65 | 10 | 9 | 7 |

## Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

9 June 1964 — Experiment No. 24 — Tracer Release from 1030 to 1130 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:00 | 202 | 16 | | | | | | | 190 | 20 | | | | | | | 196 | 19 | | | | | | |
| 10 | 208 | 14 | | | | | | | 195 | 20 | | | | | | | 200 | 22 | | | | | | |
| 20 | 295 | 16 | | | | | | | 195 | 21 | | | | | | | 195 | 22 | | | | | | |
| 30 | 198 | 18 | 108 | 95 | 82 | 20 | 17 | 15 | 190 | 22 | 115 | 90 | 72 | 20 | 17 | 14 | 197 | 21 | 82 | 63 | 52 | 18 | 14 | 11 |
| 40 | 197 | 16 | | | | | | | 187 | 19 | | | | | | | 188 | 18 | | | | | | |
| 50 | 185 | 13 | | | | | | | 176 | 18 | | | | | | | 190 | 20 | | | | | | |
| 11:00 | 182 | 15 | 150 | 118 | 98 | 21 | 17 | 15 | 188 | 21 | 115 | 85 | 69 | 23 | 18 | 15 | 192 | 23 | 109 | 78 | 60 | 21 | 17 | 13 |
| 10 | 198 | 18 | | | | | | | 188 | 22 | | | | | | | 188 | 25 | | | | | | |
| 20 | 190 | 18 | | | | | | | 182 | 23 | | | | | | | 190 | 26 | | | | | | |
| 30 | 198 | 17 | 122 | 100 | 84 | 23 | 19 | 16 | 190 | 23 | 95 | 79 | 65 | 22 | 19 | 15 | 192 | 25 | 67 | 52 | 45 | 19 | 15 | 11 |
| 40 | 188 | 17 | | | | | | | 187 | 25 | | | | | | | 190 | 27 | | | | | | |
| 50 | 190 | 17 | | | | | | | 185 | 21 | | | | | | | 188 | 23 | | | | | | |
| 12:00 | 185 | 17 | 112 | 90 | 75 | 19 | 16 | 14 | 186 | 22 | 91 | 72 | 63 | 21 | 18 | 15 | 190 | 25 | 59 | 45 | 35 | 19 | 15 | 11 |
| 10 | 196 | 17 | | | | | | | 187 | 22 | | | | | | | 193 | 23 | | | | | | |
| 20 | 190 | 19 | | | | | | | 188 | 24 | | | | | | | 191 | 26 | | | | | | |
| 30 | 198 | 16 | 108 | 88 | 72 | 23 | 18 | 15 | 182 | 21 | 92 | 75 | 60 | 22 | 16 | 15 | 191 | 24 | 55 | 42 | 31 | 22 | 15 | 11 |

10 June 1964 — Experiment No. 25 — Tracer Release from 1033 to 1133 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:00 | 355 | 7 | | | | | | | 350 | 9 | | | | | | | 342 | 7 | | | | | | |
| 10 | 015 | 7 | | | | | | | 006 | 9 | | | | | | | 340 | 7 | | | | | | |
| 20 | 012 | 6 | | | | | | | 360 | 7 | | | | | | | 333 | 6 | | | | | | |
| 30 | 338 | 6 | 193 | 146 | 124 | 8 | 7 | 6 | 360 | 7 | 185 | 143 | 110 | 8 | 6 | 6 | 347 | 6 | 192 | 163 | 130 | 9 | 7 | 6 |
| 40 | 342 | 8 | | | | | | | 342 | 9 | | | | | | | 332 | - | | | | | | |
| 50 | 060 | 6 | | | | | | | 268 | 7 | | | | | | | 324 | - | | | | | | |
| 11:00 | 340 | 6 | 264 | 227 | 188 | 9 | 7 | 6 | 334 | 8 | 250 | 188 | 123 | 9 | 8 | 7 | 328 | - | 200 | 145 | 110 | 9 | 7 | 6 |
| 10 | 355 | 5 | | | | | | | 342 | 7 | | | | | | | 320 | - | | | | | | |
| 20 | 324 | 5 | | | | | | | 336 | 7 | | | | | | | 305 | 5 | | | | | | |
| 30 | 348 | 6 | 144 | 122 | 96 | 9 | 7 | 5 | 340 | 8 | 155 | 110 | 93 | 7 | 6 | 6 | 313 | 7 | 135 | 123 | 98 | 7 | 5 | 4 |
| 40 | 010 | 6 | | | | | | | 030 | 7 | | | | | | | 322 | 6 | | | | | | |
| 50 | 258 | 8 | | | | | | | 338 | 8 | | | | | | | 332 | 7 | | | | | | |
| 12:00 | 360 | 5 | 326 | 268 | 239 | 15 | 10 | 7 | 332 | 6 | 262 | 236 | 212 | 10 | 8 | 7 | 298 | 5 | 350 | 275 | 182 | 9 | 7 | 5 |
| 10 | 342 | 5 | | | | | | | 338 | 7 | | | | | | | 316 | 7 | | | | | | |
| 20 | 024 | 6 | | | | | | | 354 | 8 | | | | | | | 340 | 7 | | | | | | |
| 30 | 346 | 6 | 182 | 190 | 122 | 10 | 7 | 6 | 346 | 7 | 260 | 163 | 138 | 12 | 9 | 8 | 312 | 7 | 242 | 168 | 145 | 9 | 7 | 6 |

## Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

11 June 1964 — Experiment No. 26 — Tracer Release from 1035 to 1135 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:00 | 82 | 8 | | | | | | | 97 | 12 | | | | | | | 92 | 9 | | | | | | |
| 10 | 80 | 8 | | | | | | | 96 | 12 | | | | | | | 92 | 9 | | | | | | |
| 20 | 92 | 11 | | | | | | | 105 | 13 | | | | | | | 95 | 11 | | | | | | |
| 30 | 100 | 9 | 88 | 76 | 58 | 10 | 8 | 6 | 108 | 12 | 90 | 75 | 56 | 9 | 7 | 5 | 100 | 9 | 111 | 74 | 62 | 11 | 8 | 6 |
| 40 | 88 | 12 | | | | | | | 102 | 13 | | | | | | | 91 | 13 | | | | | | |
| 50 | 78 | 16 | | | | | | | 90 | 17 | | | | | | | 84 | 15 | | | | | | |
| 11:00 | 88 | 12 | 112 | 85 | 67 | 16 | 10 | 9 | 100 | 14 | 95 | 76 | 60 | 14 | 12 | 9 | 83 | 13 | 82 | 58 | 48 | 12 | 9 | 7 |
| 10 | 96 | 9 | | | | | | | 102 | 12 | | | | | | | 96 | 9 | | | | | | |
| 20 | 123 | 8 | | | | | | | 130 | 11 | | | | | | | 121 | 7 | | | | | | |
| 30 | 133 | 7 | 155 | 129 | 103 | 12 | 9 | 8 | 150 | 9 | 142 | 120 | 92 | 9 | 8 | 6 | 152 | 8 | 154 | 135 | 100 | 13 | 9 | 7 |
| 40 | 122 | 7 | | | | | | | 148 | 9 | | | | | | | 160 | 8 | | | | | | |
| 50 | 150 | 7 | | | | | | | 154 | 8 | | | | | | | 168 | 8 | | | | | | |
| 12:00 | 170 | 8 | 182 | 159 | 138 | 10 | 8 | 6 | 169 | 10 | 118 | 93 | 67 | 9 | 7 | 6 | 161 | 9 | 132 | 110 | 90 | 13 | 9 | 8 |
| 10 | 151 | 7 | | | | | | | 159 | 9 | | | | | | | 163 | 7 | | | | | | |
| 20 | 167 | 7 | | | | | | | 178 | 8 | | | | | | | 173 | 8 | | | | | | |
| 30 | 200 | 7 | 162 | 142 | 125 | 11 | 8 | 6 | 200 | 10 | 182 | 138 | 118 | 11 | 8 | 6 | 180 | 9 | 146 | 88 | 69 | 14 | 9 | 9 |

10 October 1964 — Experiment No. 27 — Tracer Release from 1130 to 1230 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 048 | 7 | | | | | | | 035 | 8 | | | | | | | 050 | 6 | | | | | | |
| 10 | 045 | 7 | | | | | | | 358 | 8 | | | | | | | 042 | 7 | | | | | | |
| 20 | 049 | 7 | | | | | | | 015 | 9 | | | | | | | 051 | 9 | | | | | | |
| 30 | 012 | 6 | 182 | 149 | 108 | 9 | 7 | 6 | 352 | 7 | 120 | 99 | 86 | 7 | 6 | 5 | 020 | 5 | 122 | 108 | 90 | 9 | 7 | 6 |
| 40 | 058 | 7 | | | | | | | 038 | 7 | | | | | | | 052 | 8 | | | | | | |
| 50 | 030 | 7 | | | | | | | 004 | 6 | | | | | | | 046 | 7 | | | | | | |
| 12:00 | 065 | 7 | 192 | 158 | 132 | 8 | 6 | 6 | 015 | 8 | 128 | 100 | 85 | 9 | 7 | 6 | 078 | 8 | 172 | 132 | 91 | 9 | 7 | 6 |
| 10 | 030 | 7 | | | | | | | 322 | 6 | | | | | | | 052 | 8 | | | | | | |
| 20 | 052 | 8 | | | | | | | 010 | 7 | | | | | | | 070 | 9 | | | | | | |
| 30 | 028 | 7 | 135 | 115 | 100 | 9 | 7 | 6 | 004 | 7 | 210 | 171 | 123 | 9 | 7 | 6 | 045 | 8 | 142 | 112 | 80 | 10 | 8 | 6 |
| 40 | 060 | 6 | | | | | | | 358 | 6 | | | | | | | 078 | 8 | | | | | | |
| 50 | 068 | 6 | | | | | | | 010 | 6 | | | | | | | 050 | 8 | | | | | | |
| 13:00 | 052 | 5 | 142 | 105 | 88 | 8 | 6 | 5 | 012 | 7 | 137 | 108 | 92 | 8 | 6 | 5 | 060 | 7 | 144 | 122 | 95 | 8 | 6 | 5 |
| 10 | 360 | 7 | | | | | | | 012 | 8 | | | | | | | 041 | 7 | | | | | | |
| 20 | 028 | 6 | | | | | | | 018 | 6 | | | | | | | 038 | 7 | | | | | | |
| 30 | 056 | 7 | 175 | 140 | 120 | 9 | 7 | 6 | 360 | 6 | 145 | 100 | 71 | 7 | 6 | 5 | 053 | 7 | 172 | 142 | 120 | 8 | 6 | 5 |

# Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

11 October 1964 — Experiment No. 28 — Tracer Release from 1105 to 1205 CST

| Time (CST) | Lower Level (127 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 | Middle Level (255 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 | Upper Level (459 ft) D deg | S mph | D Range* 1 | 3 | 5 | S Range* 1 | 3 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:30 | 140 | 7 | | | | | | | 90 | 8 | | | | | | | 175 | 9 | | | | | | |
| 40 | 170 | 9 | | | | | | | 85 | 11 | | | | | | | 180 | 7 | | | | | | |
| 50 | 148 | 9 | | | | | | | 96 | 9 | | | | | | | 182 | 9 | | | | | | |
| 11:00 | 126 | 9 | 242 | 150 | 114 | 13 | 9 | 7 | 108 | 9 | 105 | 89 | 70 | 10 | 8 | 7 | 168 | 6 | | | | | | |
| 10 | 118 | 8 | | | | | | | 92 | 7 | | | | | | | 162 | 6 | | | | | | |
| 20 | 120 | 9 | | | | | | | 94 | 8 | | | | | | | 170 | 7 | | | | | | |
| 30 | 140 | 7 | 150 | 104 | 70 | 14 | 9 | 7 | 92 | 8 | 146 | 90 | 62 | 11 | 8 | 6 | 165 | 6 | | | | | | |
| 40 | 120 | 9 | | | | | | | 90 | 9 | | | | | | | 185 | 6 | | | | | | |
| 50 | 123 | 8 | | | | | | | 95 | 7 | | | | | | | 180 | 4 | | | | | | |
| 12:00 | 136 | 9 | 135 | 110 | 87 | 17 | 12 | 8 | 112 | 8 | 138 | 110 | 95 | 9 | 8 | 6 | 168 | 7 | | | | | | |
| 10 | 130 | 7 | | | | | | | 88 | 8 | | | | | | | 170 | 7 | | | | | | |
| 20 | 150 | 7 | | | | | | | 85 | 9 | | | | | | | 172 | 8 | | | | | | |
| 30 | 128 | 9 | 154 | 112 | 80 | 14 | 11 | 9 | 100 | 8 | 102 | 88 | 69 | 10 | 7 | 6 | 175 | 6 | | | | | | |
| 40 | 128 | 7 | | | | | | | 100 | 7 | | | | | | | 162 | 6 | | | | | | |
| 50 | 120 | 9 | | | | | | | 95 | 7 | | | | | | | 176 | 6 | | | | | | |
| 13:00 | 118 | 7 | 128 | 92 | 74 | 15 | 11 | 9 | 125 | 7 | 126 | 102 | 82 | 11 | 8 | 6 | 185 | 5 | | | | | | |

*The instrument boom was located on the northwest corner of the KMOX tower. With a southeast wind the tower structure created turbulence which gave unreliable wind traces.

12 October 1964 — Experiment No. 29 — Tracer Release from 2000 to 2100 CST

| Time (CST) | Lower Level (127 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 | Middle Level (255 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 | Upper Level (459 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19:30 | 342 | 6 | | | | | | | - | 10 | | | | | | | 348 | 11 | | | | | | |
| 40 | 318 | 7 | | | | | | | - | 10 | | | | | | | 340 | 12 | | | | | | |
| 50 | 305 | 7 | | | | | | | - | 10 | | | | | | | 333 | 11 | | | | | | |
| 20:00 | 306 | 7 | 102 | 79 | 62 | 7 | 5 | 4 | - | 10 | - | - | - | 6 | 3 | 2 | 328 | 10 | 15 | - | - | 3 | <2 | <2 |
| 10 | 305 | 7 | | | | | | | - | 11 | | | | | | | 320 | 9 | | | | | | |
| 20 | 316 | 8 | | | | | | | - | 12 | | | | | | | 320 | 12 | | | | | | |
| 30 | 330 | 9 | 92 | 73 | 60 | 7 | 6 | 4 | - | 10 | - | - | - | 7 | 4 | 2 | 328 | 13 | 38 | 22 | 15 | 3 | 2 | 2 |
| 40 | 343 | 7 | | | | | | | - | 9 | | | | | | | 336 | 11 | | | | | | |
| 50 | 346 | 7 | | | | | | | - | 10 | | | | | | | 343 | 11 | | | | | | |
| 21:00 | 355 | 7 | 96 | 72 | 60 | 6 | 4 | 3 | - | 9 | - | - | - | 6 | 4 | 2 | 348 | 12 | 42 | 30 | 18 | 4 | 2 | <2 |
| 10 | 352 | 7 | | | | | | | - | 10 | | | | | | | 348 | 13 | | | | | | |
| 20 | 358 | 7 | | | | | | | - | 10 | | | | | | | 349 | 14 | | | | | | |
| 30 | 359 | 7 | 78 | 62 | 53 | 7 | 5 | 4 | - | 10 | - | - | - | 4 | 3 | 2 | 350 | 13 | 30 | 16 | 10 | 4 | 2 | <2 |
| 40 | 350 | 7 | | | | | | | - | 9 | | | | | | | 350 | 12 | | | | | | |
| 50 | 352 | 6 | | | | | | | - | 9 | | | | | | | 342 | 11 | | | | | | |
| 22:00 | 006 | 5 | 92 | 69 | 53 | 4 | 3 | 2 | - | 9 | - | - | - | 5 | 3 | 2 | 347 | 11 | 30 | 14 | 8 | 4 | 2 | <2 |
| 10 | 010 | 6 | | | | | | | - | 8 | | | | | | | 356 | 13 | | | | | | |
| 20 | 012 | 6 | | | | | | | - | 9 | | | | | | | 360 | 11 | | | | | | |
| 30 | 008 | 7 | 80 | 62 | 41 | 6 | 4 | 2 | - | 9 | - | - | - | 4 | 2 | 2 | 355 | 10 | 30 | 15 | 7 | 4 | 3 | 2 |
| 40 | 010 | 7 | | | | | | | - | 9 | | | | | | | 356 | 9 | | | | | | |
| 50 | 016 | 6 | | | | | | | - | 9 | | | | | | | 003 | 11 | | | | | | |
| 23:00 | 020 | 6 | 58 | 46 | 34 | 4 | 3 | 2 | - | 9 | - | - | - | 4 | 3 | 2 | 005 | 10 | 28 | 15 | 7 | 4 | 2 | 2 |

# Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

16 October 1964 — Experiment No. 30 — Tracer Release from 2000 to 2100 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19:30 | 162 | 3 | | | | | | | 170 | 2 | | | | | | | 182 | <2 | | | | | | |
| 40 | 168 | 3 | | | | | | | 176 | 3 | | | | | | | 180 | <2 | | | | | | |
| 50 | 162 | 3 | | | | | | | 178 | 5 | | | | | | | 180 | 2 | | | | | | |
| 20:00 | 168 | 3 | 53 | 42 | 32 | 3 | <2 | <2 | 179 | 6 | 18 | - | - | 4 | <2 | <2 | 180 | 3 | 10 | - | - | 2 | <2 | <2 |
| 10 | 170 | 4 | | | | | | | 180 | 7 | | | | | | | 180 | 4 | | | | | | |
| 20 | 172 | 4 | | | | | | | 189 | 7 | | | | | | | 182 | 4 | | | | | | |
| 30 | 186 | 5 | 28 | - | - | 4 | <2 | <2 | 196 | 8 | 29 | - | - | 2 | <2 | <2 | 185 | 5 | 10 | - | - | 2 | <2 | <2 |
| 40 | 200 | 4 | | | | | | | 200 | 8 | | | | | | | 190 | 5 | | | | | | |
| 50 | 200 | 5 | | | | | | | 200 | 8 | | | | | | | 195 | 5 | | | | | | |
| 21:00 | 195 | 4 | 15 | - | - | 4 | <2 | <2 | 200 | 8 | 10 | - | - | 2 | <2 | <2 | 198 | 5 | 10 | - | - | <2 | <2 | <2 |
| 10 | 186 | 3 | | | | | | | 200 | 8 | | | | | | | 198 | 5 | | | | | | |
| 20 | 156 | 3 | | | | | | | 190 | 8 | | | | | | | 190 | 6 | | | | | | |
| 30 | 170 | 3 | 128 | 82 | 50 | 3 | <2 | <2 | 185 | 8 | 25 | - | - | 2 | <2 | <2 | 180 | 7 | 20 | - | - | 2 | <2 | <2 |
| 40 | 180 | 3 | | | | | | | 184 | 7 | | | | | | | 180 | 7 | | | | | | |
| 50 | 180 | 3 | | | | | | | 187 | 8 | | | | | | | 180 | 8 | | | | | | |
| 22:00 | 195 | 4 | 52 | 36 | 14 | 3 | <2 | <2 | 190 | 8 | 28 | - | - | 3 | <2 | <2 | 175 | 8 | 10 | - | - | 2 | <2 | <2 |
| 10 | 190 | 5 | | | | | | | 192 | 9 | | | | | | | 175 | 8 | | | | | | |
| 20 | 185 | 5 | | | | | | | 195 | 11 | | | | | | | 175 | 8 | | | | | | |
| 30 | 188 | 6 | 25 | 12 | - | 4 | <2 | <2 | 191 | 12 | 12 | - | - | 4 | <2 | <2 | 178 | 9 | 12 | - | - | <2 | <2 | <2 |
| 40 | 180 | 6 | | | | | | | 190 | 11 | | | | | | | 175 | 10 | | | | | | |
| 50 | 186 | 6 | | | | | | | 188 | 10 | | | | | | | 172 | 11 | | | | | | |
| 23:00 | 182 | 5 | 25 | 12 | - | 3 | <2 | <2 | 190 | 11 | 14 | - | - | 3 | <2 | <2 | 173 | 11 | 10 | - | - | <2 | <2 | <2 |

17 October 1964 — Experiment No. 31 — Tracer Release from 1315 to 1415 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:50 | 165 | 8 | | | | | | | 162 | 9 | | | | | | | 163 | 9 | | | | | | |
| 13:00 | 142 | 8 | | | | | | | 145 | 9 | | | | | | | 156 | 9 | | | | | | |
| 10 | 128 | 8 | | | | | | | 152 | 8 | | | | | | | 162 | 11 | | | | | | |
| 20 | 160 | 9 | 152 | 112 | 95 | 14 | 10 | 8 | 160 | 10 | 103 | 88 | 79 | 12 | 9 | 7 | 158 | 10 | 96 | 70 | 52 | 14 | 11 | 8 |
| 30 | 132 | 8 | | | | | | | 140 | 9 | | | | | | | 153 | 9 | | | | | | |
| 40 | 128 | 7 | | | | | | | 140 | 9 | | | | | | | 155 | 8 | | | | | | |
| 50 | 130 | 7 | 158 | 116 | 102 | 12 | 9 | 7 | 148 | 8 | 137 | 98 | 89 | 12 | 8 | 6 | 154 | 9 | 108 | 88 | 60 | 14 | 10 | 8 |
| 14:00 | 138 | 7 | | | | | | | 148 | 9 | | | | | | | 164 | 9 | | | | | | |
| 10 | 142 | 8 | | | | | | | 150 | 8 | | | | | | | 163 | 9 | | | | | | |
| 20 | 144 | 7 | 176 | 114 | 90 | 14 | 10 | 7 | 141 | 5 | 142 | 99 | 82 | 12 | 8 | 7 | 152 | 7 | 131 | 92 | 73 | 14 | 10 | 7 |
| 30 | 140 | 7 | | | | | | | 150 | 8 | | | | | | | 162 | 9 | | | | | | |
| 40 | 130 | 7 | | | | | | | 148 | 9 | | | | | | | 158 | 9 | | | | | | |
| 50 | 132 | 6 | 150 | 92 | 62 | 12 | 9 | 7 | 150 | 8 | 120 | 92 | 76 | 10 | 7 | 5 | 162 | 9 | 132 | 100 | 73 | 14 | 10 | 8 |
| 15:00 | 140 | 7 | | | | | | | 153 | 9 | | | | | | | 160 | 9 | | | | | | |
| 10 | 128 | 7 | | | | | | | 146 | 9 | | | | | | | 156 | 10 | | | | | | |
| 20 | 142 | 7 | 115 | 88 | 74 | 12 | 9 | 7 | 156 | 8 | 118 | 90 | 78 | 12 | 8 | 6 | 162 | 11 | 127 | 88 | 70 | 17 | 10 | 9 |

## Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

19 October 1964 — Experiment No. 32 — Tracer Release from 1945 to 2045 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19:10 | 345 | 9 | | | | | | | 358 | 10 | | | | | | | 002 | 9 | | | | | | |
| 20 | 348 | 9 | | | | | | | 345 | 11 | | | | | | | 350 | 11 | | | | | | |
| 30 | 338 | 9 | | | | | | | 347 | 11 | | | | | | | 350 | 12 | | | | | | |
| 40 | 348 | 8 | 126 | 78 | 61 | 11 | 7 | 6 | 350 | 10 | 85 | 58 | 36 | 11 | 9 | 6 | 358 | 11 | 85 | 52 | 35 | 9 | 7 | 5 |
| 50 | 342 | 9 | | | | | | | 350 | 11 | | | | | | | 352 | 11 | | | | | | |
| 20:00 | 330 | 8 | | | | | | | 332 | 10 | | | | | | | 338 | 12 | | | | | | |
| 10 | 333 | 8 | 116 | 95 | 70 | 11 | 9 | 6 | 336 | 9 | 92 | 70 | 52 | 9 | 7 | 5 | 340 | 9 | 110 | 72 | 50 | 9 | 7 | 5 |
| 20 | 328 | 8 | | | | | | | 330 | 11 | | | | | | | 338 | 11 | | | | | | |
| 30 | 334 | 8 | | | | | | | 328 | 10 | | | | | | | 333 | 11 | | | | | | |
| 40 | 316 | 8 | 106 | 95 | 71 | 9 | 7 | 6 | 315 | 9 | 90 | 72 | 50 | 8 | 6 | 5 | 306 | 10 | 110 | 90 | 60 | 7 | 6 | 5 |
| 50 | 322 | 10 | | | | | | | 322 | 11 | | | | | | | 322 | 12 | | | | | | |
| 21:00 | 312 | 8 | | | | | | | 316 | 9 | | | | | | | 312 | 9 | | | | | | |
| 10 | 292 | 9 | 90 | 85 | 65 | 9 | 7 | 5 | 304 | 11 | 105 | 75 | 55 | 7 | 6 | 4 | 308 | 10 | 100 | 76 | 59 | 7 | 6 | 5 |
| 20 | 300 | 8 | | | | | | | 304 | 9 | | | | | | | 308 | 10 | | | | | | |
| 30 | 308 | 8 | | | | | | | 312 | 9 | | | | | | | 315 | 10 | | | | | | |
| 40 | 318 | 9 | 108 | 92 | 73 | 7 | 5 | 4 | 320 | 11 | 100 | 78 | 58 | 8 | 6 | 5 | 319 | 11 | 98 | 76 | 55 | 9 | 7 | 5 |
| 50 | 315 | 9 | | | | | | | 317 | 10 | | | | | | | 316 | 10 | | | | | | |
| 22:00 | 323 | 10 | | | | | | | 328 | 12 | | | | | | | 330 | 12 | | | | | | |
| 10 | 320 | 8 | 110 | 92 | 70 | 9 | 7 | 6 | 325 | 9 | 90 | 72 | 52 | 9 | 8 | 6 | 330 | 14 | 106 | 69 | 40 | 9 | 7 | 5 |
| 20 | 328 | 10 | | | | | | | 330 | 11 | | | | | | | 335 | 16 | | | | | | |
| 30 | 329 | 10 | | | | | | | 332 | 11 | | | | | | | 334 | 14 | | | | | | |
| 40 | 330 | 11 | 111 | 92 | 68 | 11 | 7 | 5 | 332 | 12 | 72 | 53 | 40 | 10 | 8 | 6 | 336 | 14 | 70 | 50 | 33 | 12 | 7 | 3 |

20 October 1964 — Experiment No. 33 — Tracer Release from 1915 to 2015 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18:40 | 204 | 11 | | | | | | | 199 | 17 | | | | | | | 204 | 21 | | | | | | |
| 50 | 198 | 10 | | | | | | | 202 | 17 | | | | | | | 205 | 22 | | | | | | |
| 19:00 | 202 | 11 | | | | | | | 205 | 18 | | | | | | | 210 | 24 | | | | | | |
| 10 | 198 | 11 | 71 | 62 | 52 | 10 | 9 | 7 | 200 | 17 | 75 | 58 | 45 | 10 | 9 | 8 | 210 | 24 | 34 | 26 | 17 | 7 | 6 | 4 |
| 20 | 195 | 10 | | | | | | | 194 | 17 | | | | | | | 202 | 23 | | | | | | |
| 30 | 199 | 11 | | | | | | | 204 | 18 | | | | | | | 208 | 25 | | | | | | |
| 40 | 198 | 11 | 92 | 75 | 61 | 12 | 10 | 7 | 202 | 18 | 72 | 58 | 48 | 14 | 13 | 11 | 209 | 26 | 42 | 33 | 25 | 9 | 7 | 5 |
| 50 | 195 | 11 | | | | | | | 198 | 18 | | | | | | | 204 | 26 | | | | | | |
| 20:00 | 190 | 12 | | | | | | | 197 | 17 | | | | | | | 200 | 26 | | | | | | |
| 10 | 194 | 10 | 80 | 69 | 59 | 11 | 10 | 8 | 198 | 17 | 68 | 55 | 42 | 14 | 11 | 9 | 204 | 27 | 39 | 29 | 20 | 9 | 7 | 6 |
| 20 | 194 | 13 | | | | | | | 199 | 18 | | | | | | | 204 | 27 | | | | | | |
| 30 | 192 | 14 | | | | | | | 196 | 20 | | | | | | | 205 | 27 | | | | | | |
| 40 | 197 | 15 | 92 | 73 | 62 | 15 | 12 | 10 | 196 | 21 | 68 | 59 | 46 | 17 | 15 | 13 | 205 | 26 | 39 | 28 | 21 | 10 | 7 | 6 |
| 50 | 196 | 14 | | | | | | | 200 | 20 | | | | | | | 204 | 26 | | | | | | |
| 21:00 | 196 | 15 | | | | | | | 200 | 21 | | | | | | | 204 | 26 | | | | | | |
| 10 | 195 | 15 | 85 | 72 | 58 | 14 | 11 | 9 | 202 | 20 | 69 | 54 | 40 | 11 | 9 | 7 | 207 | 26 | 35 | 22 | 18 | 9 | 6 | 5 |
| 20 | 195 | 14 | | | | | | | 198 | 20 | | | | | | | 208 | 26 | | | | | | |
| 30 | 193 | 14 | | | | | | | 199 | 19 | | | | | | | 208 | 26 | | | | | | |
| 40 | 197 | 14 | 80 | 72 | 58 | 10 | 9 | 8 | 200 | 19 | 82 | 55 | 41 | 14 | 10 | 9 | 208 | 24 | 32 | 20 | 16 | 8 | 6 | 5 |
| 50 | 198 | 14 | | | | | | | 198 | 20 | | | | | | | 208 | 26 | | | | | | |
| 22:00 | 198 | 13 | | | | | | | 198 | 18 | | | | | | | 208 | 26 | | | | | | |
| 10 | 198 | 13 | 90 | 70 | 59 | 13 | 11 | 7 | 200 | 20 | 64 | 56 | 44 | 15 | 12 | 9 | 210 | 27 | 32 | 21 | 17 | 8 | 7 | 5 |

## Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

21 October 1964 — Experiment No. 34 — Tracer Release from 1920 to 2020 CST

| Time (CST) | Lower Level (427 ft) D deg | Lower Level (427 ft) S mph | Lower Level (427 ft) D Range 1 | Lower Level (427 ft) D Range 3 | Lower Level (427 ft) D Range 5 | Lower Level (427 ft) S Range 1 | Lower Level (427 ft) S Range 3 | Lower Level (427 ft) S Range 5 | Middle Level (855 ft) D deg | Middle Level (855 ft) S mph | Middle Level (855 ft) D Range 1 | Middle Level (855 ft) D Range 3 | Middle Level (855 ft) D Range 5 | Middle Level (855 ft) S Range 1 | Middle Level (855 ft) S Range 3 | Middle Level (855 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18:30 | 352 | 11 | | | | | | | 358 | 17 | | | | | | | 002 | 21 | | | | | | |
| 40 | 358 | 11 | | | | | | | 360 | 16 | | | | | | | 012 | 21 | | | | | | |
| 50 | 004 | 12 | | | | | | | 005 | 16 | | | | | | | 014 | 18 | | | | | | |
| 19:00 | 005 | 13 | 108 | 89 | 78 | 12 | 9 | 7 | 012 | 16 | 72 | 55 | 48 | 11 | 9 | 8 | 015 | 19 | 51 | 40 | 30 | 10 | 8 | 7 |
| 10 | 010 | 14 | | | | | | | 015 | 14 | | | | | | | 022 | 19 | | | | | | |
| 20 | 010 | 11 | | | | | | | 017 | 15 | | | | | | | 017 | 17 | | | | | | |
| 30 | 010 | 10 | 98 | 90 | 66 | 14 | 10 | 8 | 012 | 14 | 63 | 51 | 40 | 10 | 8 | 7 | 015 | 12 | 61 | 39 | 30 | 9 | 8 | 6 |
| 40 | 010 | 10 | | | | | | | 012 | 15 | | | | | | | 018 | 16 | | | | | | |
| 50 | 360 | 10 | | | | | | | 010 | 13 | | | | | | | 015 | 17 | | | | | | |
| 20:00 | 005 | 9 | 89 | 70 | 59 | 10 | 9 | 7 | 016 | 13 | 52 | 46 | 38 | 10 | 8 | 7 | 015 | 17 | 50 | 41 | 26 | 9 | 7 | 5 |
| 10 | 009 | 11 | | | | | | | 010 | 16 | | | | | | | 015 | 18 | | | | | | |
| 20 | 008 | 14 | | | | | | | 010 | 17 | | | | | | | 015 | 19 | | | | | | |
| 30 | 005 | 13 | 98 | 69 | 59 | 10 | 8 | 7 | 012 | 16 | 55 | 41 | 38 | 11 | 9 | 7 | 016 | 17 | 43 | 36 | 29 | 10 | 8 | 6 |
| 40 | 012 | 9 | | | | | | | 015 | 14 | | | | | | | 020 | 17 | | | | | | |
| 50 | 011 | 13 | | | | | | | 015 | 15 | | | | | | | 028 | 20 | | | | | | |
| 21:00 | 009 | 13 | 94 | 71 | 59 | 11 | 10 | 7 | 017 | 16 | 70 | 60 | 42 | 10 | 8 | 6 | 022 | 21 | 40 | 32 | 21 | 11 | 7 | 6 |
| 10 | 010 | 12 | | | | | | | 019 | 15 | | | | | | | 025 | 21 | | | | | | |
| 20 | 008 | 13 | | | | | | | 015 | 16 | | | | | | | 022 | 21 | | | | | | |
| 30 | 009 | 11 | 95 | 70 | 60 | 12 | 10 | 7 | 015 | 16 | 45 | 36 | 30 | 10 | 8 | 7 | 020 | 20 | 23 | 17 | 10 | 7 | 6 | 5 |
| 40 | 008 | 9 | | | | | | | 016 | 14 | | | | | | | 024 | 18 | | | | | | |
| 50 | 010 | 11 | | | | | | | 015 | 14 | | | | | | | 025 | 18 | | | | | | |
| 22:00 | 008 | 12 | 85 | 63 | 52 | 10 | 9 | 7 | 012 | 15 | 44 | 31 | 25 | 8 | 6 | 5 | 020 | 18 | 22 | 18 | 10 | 4 | 3 | 2 |

6 March 1965 — Experiment No. 35 — Tracer Release from 1230 to 1330 CST

| Time (CST) | Lower Level (427 ft) D deg | Lower Level (427 ft) S mph | Lower Level (427 ft) D Range 1 | Lower Level (427 ft) D Range 3 | Lower Level (427 ft) D Range 5 | Lower Level (427 ft) S Range 1 | Lower Level (427 ft) S Range 3 | Lower Level (427 ft) S Range 5 | Middle Level (855 ft) D deg | Middle Level (855 ft) S mph | Middle Level (855 ft) D Range 1 | Middle Level (855 ft) D Range 3 | Middle Level (855 ft) D Range 5 | Middle Level (855 ft) S Range 1 | Middle Level (855 ft) S Range 3 | Middle Level (855 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 | 295 | 13 | | | | | | | 298 | 14 | | | | | | | 316 | 14 | | | | | | |
| 10 | 274 | 15 | | | | | | | 282 | 18 | | | | | | | 311 | 17 | | | | | | |
| 20 | 275 | 15 | | | | | | | 283 | 18 | | | | | | | 309 | 18 | | | | | | |
| 30 | 280 | 13 | 100 | 78 | 63 | 12 | 10 | 9 | 295 | 15 | 89 | 66 | 57 | 14 | 10 | 7 | 314 | 16 | 65 | 50 | 38 | 9 | 8 | 7 |
| 40 | 272 | 13 | | | | | | | 284 | 15 | | | | | | | 306 | 15 | | | | | | |
| 50 | 286 | 15 | | | | | | | 293 | 16 | | | | | | | 308 | 17 | | | | | | |
| 13:00 | 278 | 15 | 98 | 86 | 74 | 14 | 11 | 9 | 283 | 17 | 92 | 66 | 55 | 11 | 9 | 8 | 308 | 20 | 88 | 60 | 45 | 14 | 9 | 7 |
| 10 | 276 | 17 | | | | | | | 283 | 21 | | | | | | | 302 | 22 | | | | | | |
| 20 | 272 | 14 | | | | | | | 282 | 20 | | | | | | | 305 | 21 | | | | | | |
| 30 | 278 | 14 | 98 | 82 | 65 | 15 | 14 | 9 | 288 | 18 | 78 | 59 | 48 | 11 | 10 | 9 | 310 | 22 | 64 | 52 | 41 | 11 | 8 | 6 |
| 40 | 279 | 13 | | | | | | | 292 | 16 | | | | | | | 310 | 18 | | | | | | |
| 50 | 278 | 15 | | | | | | | 285 | 17 | | | | | | | 309 | 18 | | | | | | |
| 14:00 | 275 | 15 | 100 | 88 | 68 | 15 | 13 | 9 | 286 | 17 | 90 | 71 | 59 | 12 | 11 | 7 | 307 | 19 | 84 | 58 | 50 | 14 | 10 | 7 |
| 10 | 275 | 14 | | | | | | | 282 | 15 | | | | | | | 305 | 16 | | | | | | |
| 20 | 285 | 13 | | | | | | | 290 | 16 | | | | | | | 309 | 18 | | | | | | |
| 30 | 282 | 14 | 121 | 99 | 81 | 15 | 12 | 10 | 292 | 16 | 91 | 75 | 61 | 14 | 10 | 8 | 310 | 18 | 82 | 63 | 52 | 14 | 9 | 6 |

## Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

7 March 1965 — Experiment No. 36 — Tracer Release from 1230 to 1330 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 | 352 | 9 | | | | | | | 356 | 11 | | | | | | | 010 | 11 | | | | | | |
| 10 | 350 | 8 | | | | | | | 359 | 9 | | | | | | | 010 | 20 | | | | | | |
| 20 | 342 | 8 | | | | | | | 352 | 10 | | | | | | | 004 | 11 | | | | | | |
| 30 | 335 | 10 | 138 | 122 | 104 | 11 | 9 | 7 | 342 | 11 | 90 | 76 | 62 | 7 | 6 | 6 | 004 | 13 | 85 | 70 | 58 | 9 | 7 | 6 |
| 40 | 002 | 11 | | | | | | | 358 | 12 | | | | | | | 018 | 14 | | | | | | |
| 50 | 354 | 13 | | | | | | | 354 | 15 | | | | | | | 012 | 14 | | | | | | |
| 13:00 | 342 | 11 | 129 | 100 | 85 | 14 | 10 | 8 | 347 | 13 | 85 | 70 | 60 | 9 | 7 | 6 | 352 | 12 | 84 | 70 | 59 | 11 | 9 | 7 |
| 10 | 328 | 9 | | | | | | | 330 | 12 | | | | | | | 352 | 13 | | | | | | |
| 20 | 330 | 11 | | | | | | | 339 | 13 | | | | | | | 350 | 13 | | | | | | |
| 30 | 338 | 12 | 121 | 105 | 88 | 11 | 9 | 7 | 341 | 15 | 119 | 88 | 60 | 10 | 7 | 6 | 360 | 14 | 91 | 66 | 50 | 9 | 7 | 6 |
| 40 | 325 | 11 | | | | | | | 335 | 13 | | | | | | | 360 | 13 | | | | | | |
| 50 | 342 | 13 | | | | | | | 346 | 15 | | | | | | | 008 | 15 | | | | | | |
| 14:00 | 348 | 10 | 139 | 106 | 89 | 11 | 10 | 7 | 350 | 11 | 102 | 79 | 54 | 10 | 8 | 7 | 008 | 13 | 70 | 59 | 45 | 9 | 8 | 6 |
| 10 | 342 | 13 | | | | | | | 343 | 14 | | | | | | | 360 | 14 | | | | | | |
| 20 | 336 | 12 | | | | | | | 341 | 14 | | | | | | | 352 | 14 | | | | | | |
| 30 | 330 | 11 | 140 | 108 | 90 | 15 | 12 | 9 | 340 | 13 | 92 | 72 | 55 | 10 | 7 | 6 | 354 | 15 | 78 | 65 | 42 | 10 | 7 | 6 |

8 March 1965 — Experiment No. 37 — Tracer Release from 2030 to 2130 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (482 ft) D deg | Upper Level (482 ft) S mph | Upper Level (482 ft) D Range 1 | Upper Level (482 ft) D Range 3 | Upper Level (482 ft) D Range 5 | Upper Level (482 ft) S Range 1 | Upper Level (482 ft) S Range 3 | Upper Level (482 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20:00 | 275 | 14 | | | | | | | 282 | 18 | | | | | | | 300 | 22 | | | | | | |
| 10 | 278 | 16 | | | | | | | 284 | 18 | | | | | | | 302 | 20 | | | | | | |
| 20 | 272 | 16 | | | | | | | 285 | 16 | | | | | | | 302 | 20 | | | | | | |
| 30 | 270 | 15 | 88 | 66 | 59 | 16 | 14 | 11 | 282 | 17 | 88 | 65 | 55 | 16 | 11 | 8 | 302 | 19 | 89 | 60 | 45 | 11 | 9 | 9 |
| 40 | 269 | 15 | | | | | | | 280 | 16 | | | | | | | 302 | 17 | | | | | | |
| 50 | 271 | 14 | | | | | | | 280 | 15 | | | | | | | 300 | 17 | | | | | | |
| 21:00 | 270 | 15 | 102 | 76 | 61 | 17 | 14 | 11 | 284 | 17 | 91 | 76 | 60 | 14 | 11 | 8 | 308 | 18 | 85 | 65 | 42 | 13 | 10 | 6 |
| 10 | 278 | 15 | | | | | | | 285 | 16 | | | | | | | 306 | 18 | | | | | | |
| 20 | 272 | 15 | | | | | | | 285 | 17 | | | | | | | 301 | 18 | | | | | | |
| 30 | 275 | 15 | 89 | 71 | 59 | 14 | 12 | 9 | 285 | 18 | 79 | 60 | 49 | 11 | 9 | 7 | 301 | 20 | 72 | 58 | 40 | 11 | 10 | 8 |
| 40 | 280 | 15 | | | | | | | 287 | 17 | | | | | | | 304 | 21 | | | | | | |
| 50 | 272 | 15 | | | | | | | 288 | 17 | | | | | | | 305 | 20 | | | | | | |
| 22:00 | 275 | 15 | 98 | 75 | 60 | 16 | 14 | 9 | 286 | 17 | 98 | 70 | 52 | 11 | 9 | 7 | 308 | 21 | 64 | 50 | 40 | 15 | 11 | 8 |
| 10 | 286 | 16 | | | | | | | 292 | 18 | | | | | | | 312 | 22 | | | | | | |
| 20 | 280 | 16 | | | | | | | 295 | 17 | | | | | | | 316 | 23 | | | | | | |
| 30 | 292 | 14 | 118 | 104 | 80 | 18 | 15 | 11 | 302 | 17 | 95 | 84 | 65 | 16 | 14 | 11 | 322 | 22 | 105 | 71 | 59 | 16 | 12 | 9 |
| 40 | 290 | 14 | | | | | | | 325 | 16 | | | | | | | 322 | 19 | | | | | | |
| 50 | 278 | 12 | | | | | | | 300 | 15 | | | | | | | 320 | 18 | | | | | | |
| 23:00 | 282 | 14 | 85 | 60 | 70 | 14 | 11 | 9 | 292 | 17 | 79 | 62 | 55 | 15 | 13 | 10 | 310 | 18 | 82 | 58 | 50 | 14 | 11 | 9 |
| 10 | 274 | 15 | | | | | | | 290 | 16 | | | | | | | 312 | 18 | | | | | | |
| 20 | 280 | 15 | | | | | | | 290 | 17 | | | | | | | 312 | 20 | | | | | | |
| 30 | 283 | 13 | 125 | 90 | 76 | 15 | 14 | 9 | 295 | 16 | 90 | 75 | 65 | 14 | 13 | 12 | 323 | 18 | 88 | 70 | 58 | 16 | 14 | 12 |

# Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

11 March 1965 — Experiment No. 38 — Tracer Release from 2030 to 2130 CST

| Time (CST) | Lower Level (127 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 | Middle Level (255 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 | Upper Level (459 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20:00 | 220 | 9 | | | | | | | 244 | 8 | | | | | | | 270 | 9 | | | | | | |
| 10 | 210 | 6 | | | | | | | 240 | 7 | | | | | | | 272 | 9 | | | | | | |
| 20 | 208 | 6 | | | | | | | 240 | 7 | | | | | | | 263 | 9 | | | | | | |
| 30 | 216 | 7 | 68 | 55 | 45 | 4 | 3 | 2 | 240 | 7 | 58 | 44 | 30 | 4 | 3 | 2 | 274 | 9 | 39 | 29 | 15 | 4 | 2 | <2 |
| 40 | 236 | 7 | | | | | | | 262 | 8 | | | | | | | 292 | 10 | | | | | | |
| 50 | 255 | 6 | | | | | | | 282 | 9 | | | | | | | 308 | 10 | | | | | | |
| 21:00 | 268 | 8 | 110 | 88 | 62 | 7 | 6 | 5 | 294 | 10 | 95 | 67 | 54 | 8 | 6 | 5 | 320 | 11 | 105 | 69 | 46 | 7 | 6 | 4 |
| 10 | 274 | 8 | | | | | | | 305 | 9 | | | | | | | 340 | 10 | | | | | | |
| 20 | 306 | 8 | | | | | | | 322 | 9 | | | | | | | 349 | 10 | | | | | | |
| 30 | 318 | 8 | 150 | 98 | 75 | 7 | 5 | 3 | 328 | 9 | 90 | 65 | 52 | 7 | 6 | 5 | 355 | 10 | 65 | 55 | 42 | 7 | 4 | 2 |
| 40 | 332 | 6 | | | | | | | 342 | 7 | | | | | | | 008 | 9 | | | | | | |
| 50 | 332 | 6 | | | | | | | 350 | 9 | | | | | | | 018 | 10 | | | | | | |
| 22:00 | 338 | 5 | 92 | 62 | 53 | 7 | 5 | 3 | 345 | 6 | 78 | 59 | 42 | 6 | 4 | 3 | 010 | 8 | 92 | 75 | 61 | 7 | 6 | 4 |
| 10 | 328 | 6 | | | | | | | 338 | 6 | | | | | | | 003 | 8 | | | | | | |
| 20 | 345 | 7 | | | | | | | 358 | 7 | | | | | | | 010 | 9 | | | | | | |
| 30 | 342 | 7 | 152 | 93 | 64 | 7 | 5 | 4 | 360 | 9 | 99 | 74 | 62 | 7 | 6 | 3 | 018 | 11 | 95 | 72 | 65 | 7 | 5 | 4 |
| 40 | 345 | 7 | | | | | | | 356 | 9 | | | | | | | 015 | 10 | | | | | | |
| 50 | 348 | 6 | | | | | | | 359 | 8 | | | | | | | 021 | 10 | | | | | | |
| 23:00 | 353 | 7 | 92 | 69 | 55 | 7 | 5 | 4 | 008 | 8 | 75 | 41 | 38 | 7 | 5 | 4 | 024 | 11 | 89 | 70 | 61 | 7 | 6 | 4 |
| 10 | 001 | 8 | | | | | | | 012 | 9 | | | | | | | 031 | 10 | | | | | | |
| 20 | 358 | 6 | | | | | | | 010 | 9 | | | | | | | 028 | 9 | | | | | | |
| 30 | 360 | 7 | 88 | 59 | 51 | 6 | 3 | 2 | 015 | 8 | 81 | 52 | 32 | 6 | 5 | 4 | 032 | 9 | 92 | 73 | 65 | 6 | 4 | 2 |

13 March 1965 — Experiment No. 39 — Tracer Release from 1220 to 1320 CST

| Time (CST) | Lower Level (127 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 | Middle Level (255 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 | Upper Level (459 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:50 | 290 | 5 | | | | | | | 295 | 6 | | | | | | | 340 | 7 | | | | | | |
| 12:00 | 336 | 5 | | | | | | | 348 | 5 | | | | | | | 350 | 7 | | | | | | |
| 10 | 316 | 5 | | | | | | | 315 | 6 | | | | | | | 296 | 6 | | | | | | |
| 20 | 324 | 6 | 205 | 180 | 172 | 7 | 5 | 5 | 335 | 5 | 215 | 188 | 168 | 6 | 6 | 5 | 342 | 6 | 268 | 249 | 207 | | 6 | 6 |
| 30 | 290 | 6 | | | | | | | 315 | 7 | | | | | | | 338 | 7 | | | | | | |
| 40 | 330 | 7 | | | | | | | 340 | 7 | | | | | | | 357 | 8 | | | | | | |
| 50 | 292 | 6 | 230 | 182 | 148 | 8 | 7 | 6 | 334 | 6 | 205 | 177 | 135 | 10 | 7 | 6 | 342 | 8 | 227 | 148 | 112 | 8 | 7 | 6 |
| 13:00 | 288 | 6 | | | | | | | 304 | 6 | | | | | | | 332 | 7 | | | | | | |
| 10 | 350 | 5 | | | | | | | 352 | 5 | | | | | | | 005 | 7 | | | | | | |
| 20 | 017 | 5 | 252 | 198 | 175 | 7 | 6 | 6 | 018 | 6 | 200 | 178 | 163 | 9 | 7 | 5 | 042 | 7 | 280 | 196 | 160 | 7 | 6 | 5 |
| 30 | 038 | 7 | | | | | | | 030 | 7 | | | | | | | 055 | 7 | | | | | | |
| 40 | 048 | 8 | | | | | | | 065 | 8 | | | | | | | 060 | 9 | | | | | | |
| 50 | 310 | 6 | 312 | 232 | 184 | 9 | 7 | 6 | 338 | 7 | 242 | 222 | 208 | 8 | 7 | 6 | 290 | 7 | 313 | 258 | 230 | 8 | 6 | 5 |
| 14:00 | 330 | 2 | | | | | | | 008 | 4 | | | | | | | 292 | 5 | | | | | | |
| 10 | 340 | 3 | | | | | | | 304 | 4 | | | | | | | 283 | 6 | | | | | | |
| 20 | 250 | 5 | 250 | 229 | 207 | 6 | 5 | 4 | 268 | 7 | 270 | 258 | 235 | 7 | 6 | 4 | 255 | 6 | 265 | 209 | 175 | 6 | 5 | 4 |

## Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

14 March 1965 — Experiment No. 40 — Tracer Release from 1100 to 1200 CST

| Time (CST) | Lower Level (127 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 | Middle Level (255 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 | Upper Level (459 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:30 | 285 | 12 | | | | | | | 309 | 14 | | | | | | | 318 | 17 | | | | | | |
| 40 | 270 | 14 | | | | | | | 292 | 14 | | | | | | | 314 | 15 | | | | | | |
| 50 | 286 | 14 | | | | | | | 311 | 16 | | | | | | | 327 | 17 | | | | | | |
| 11:00 | 265 | 14 | 138 | 120 | 94 | 15 | 12 | 9 | 288 | 15 | 122 | 104 | 91 | 16 | 11 | 9 | 305 | 16 | 101 | 85 | 68 | 14 | 12 | 8 |
| 10 | 282 | 13 | | | | | | | 300 | 13 | | | | | | | 308 | 16 | | | | | | |
| 20 | 270 | 13 | | | | | | | 291 | 14 | | | | | | | 318 | 16 | | | | | | |
| 30 | 274 | 15 | 147 | 118 | 98 | 18 | 14 | 9 | 292 | 15 | 125 | 107 | 92 | 14 | 12 | 8 | 312 | 16 | 130 | 103 | 82 | 15 | 11 | 9 |
| 40 | 268 | 13 | | | | | | | 288 | 15 | | | | | | | 310 | 16 | | | | | | |
| 50 | 270 | 16 | | | | | | | 282 | 15 | | | | | | | 303 | 18 | | | | | | |
| 12:00 | 265 | 16 | 194 | 129 | 100 | 21 | 17 | 13 | 281 | 18 | 122 | 103 | 90 | 21 | 17 | 15 | 317 | 23 | 122 | 98 | 82 | 22 | 18 | 16 |
| 10 | 283 | 16 | | | | | | | 304 | 17 | | | | | | | 330 | 20 | | | | | | |
| 20 | 276 | 18 | | | | | | | 299 | 18 | | | | | | | 322 | 22 | | | | | | |
| 30 | 272 | 16 | 138 | 120 | 97 | 17 | 14 | 12 | 299 | 17 | 123 | 98 | 72 | 17 | 14 | 11 | 316 | 21 | 98 | 72 | 65 | 17 | 14 | 12 |
| 40 | 260 | 18 | | | | | | | 278 | 19 | | | | | | | 309 | 22 | | | | | | |
| 50 | 270 | 16 | | | | | | | 290 | 17 | | | | | | | 312 | 21 | | | | | | |
| 13:00 | 272 | 14 | 112 | 97 | 80 | 18 | 16 | 14 | 290 | 18 | 107 | 78 | 68 | 16 | 15 | 12 | 313 | 21 | 82 | 72 | 58 | 16 | 13 | 12 |

15 March 1965 — Experiment No. 41 — Tracer Release from 2050 to 2150 CST

| Time (CST) | Lower Level (127 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 | Middle Level (255 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 | Upper Level (459 ft) D deg | S mph | D Range 1 | 3 | 5 | S Range 1 | 3 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20:20 | 309 | 4 | | | | | | | 331 | 8 | | | | | | | 348 | 9 | | | | | | |
| 30 | 314 | 3 | | | | | | | 338 | 8 | | | | | | | 355 | 9 | | | | | | |
| 40 | 314 | 4 | | | | | | | 334 | 8 | | | | | | | 356 | 10 | | | | | | |
| 50 | 312 | 4 | 69 | 50 | 36 | 3 | 2 | <2 | 332 | 7 | 71 | 53 | 41 | 4 | 3 | 2 | 351 | 9 | 55 | 40 | 29 | 3 | 2 | <2 |
| 21:00 | 305 | 4 | | | | | | | 338 | 7 | | | | | | | 355 | 9 | | | | | | |
| 10 | 310 | 4 | | | | | | | 334 | 9 | | | | | | | 360 | 11 | | | | | | |
| 20 | 303 | 5 | 62 | 48 | 38 | 4 | 3 | <2 | 331 | 10 | 52 | 41 | 34 | 5 | 3 | 2 | 360 | 11 | 42 | 20 | 20 | 4 | 2 | <2 |
| 30 | 315 | 6 | | | | | | | 339 | 10 | | | | | | | 002 | 12 | | | | | | |
| 40 | 321 | 7 | | | | | | | 343 | 11 | | | | | | | 010 | 13 | | | | | | |
| 50 | 318 | 6 | 79 | 58 | 49 | 4 | 3 | <2 | 343 | 11 | 54 | 42 | 30 | 4 | 3 | 2 | 010 | 13 | 10 | - | - | <2 | <2 | <2 |
| 22:00 | 330 | 7 | | | | | | | 345 | 11 | | | | | | | 010 | 14 | | | | | | |
| 10 | 342 | 7 | | | | | | | 005 | 11 | | | | | | | 018 | 14 | | | | | | |
| 20 | 330 | 7 | 108 | 76 | 65 | 7 | 5 | 3 | 010 | 11 | 62 | 53 | 50 | 6 | 4 | 2 | 032 | 14 | 28 | 12 | 10 | 4 | 2 | <2 |
| 30 | 360 | 6 | | | | | | | 021 | 12 | | | | | | | 041 | 14 | | | | | | |
| 40 | 005 | 9 | | | | | | | 025 | 14 | | | | | | | 043 | 15 | | | | | | |
| 50 | 008 | 9 | 95 | 60 | 52 | 7 | 5 | 3 | 032 | 14 | 56 | 45 | 39 | 7 | 4 | 2 | 052 | 16 | 23 | - | - | 3 | 2 | <2 |
| 23:00 | 008 | 8 | | | | | | | 030 | 13 | | | | | | | 050 | 14 | | | | | | |
| 10 | 014 | 7 | | | | | | | 033 | 12 | | | | | | | 058 | 14 | | | | | | |
| 20 | 020 | 6 | 88 | 65 | 52 | 6 | 5 | 4 | 048 | 11 | 68 | 60 | 48 | 5 | 4 | 3 | 060 | 14 | 30 | 18 | 10 | 5 | 3 | 2 |
| 30 | 038 | 4 | | | | | | | 055 | 8 | | | | | | | 068 | 9 | | | | | | |
| 40 | 050 | 2 | | | | | | | 040 | 7 | | | | | | | 058 | 11 | | | | | | |
| 50 | 042 | 3 | 55 | 32 | 20 | 3 | 2 | <2 | 042 | 7 | 110 | 91 | 70 | 5 | 4 | 2 | 052 | 10 | 55 | 43 | 28 | 6 | 5 | 3 |

# Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

16 March 1965 — Experiment No. 42 — Tracer Release from 2030 to 2130 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20:00 | 82 | 11 | | | | | | | 105 | 16 | | | | | | | | | | | | | | |
| 10 | 88 | 10 | | | | | | | 112 | 14 | | | | | | | | | | | | | | |
| 20 | 92 | 13 | | | | | | | 114 | 15 | | | | | | | | | | | | | | |
| 30 | 92 | 11 | 132 | 104 | 78 | 14 | 11 | 8 | 110 | 15 | 108 | 80 | 60 | 15 | 11 | 9 | | | | | | | | |
| 40 | 91 | 10 | | | | | | | 114 | 16 | | | | | | | | | | | | | | |
| 50 | 93 | 12 | | | | | | | 114 | 15 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | MISSING | | | | | |
| 21:00 | 96 | 14 | 115 | 88 | 78 | 19 | 10 | 9 | 120 | 18 | 95 | 72 | 60 | 18 | 16 | 11 | | | | | | | | |
| 10 | 98 | 15 | | | | | | | 123 | 22 | | | | | | | | | | | | | | |
| 20 | 102 | 15 | | | | | | | 120 | 20 | | | | | | | | | | | | | | |
| 30 | 102 | 13 | 129 | 102 | 72 | 17 | 16 | 14 | 130 | 17 | 107 | 72 | 59 | 21 | 18 | 15 | | | | | | | | |
| 40 | 104 | 17 | | | | | | | 126 | 21 | | | | | | | | | | | | | | |
| 50 | 102 | 15 | | | | | | | 125 | 20 | | | | | | | | | | | | | | |
| 22:00 | 100 | 13 | 115 | 100 | 78 | 20 | 17 | 15 | 121 | 21 | 92 | 72 | 58 | 18 | 16 | 14 | | | | | | | | |
| 10 | 100 | 17 | | | | | | | 122 | 21 | | | | | | | | | | | | | | |
| 20 | 102 | 19 | | | | | | | 124 | 20 | | | | | | | | | | | | | | |
| 30 | 105 | 17 | 110 | 98 | 75 | 29 | 23 | 17 | 130 | 17 | 89 | 72 | 65 | 20 | 17 | 15 | | | | | | | | |
| 40 | 108 | 18 | | | | | | | 130 | 17 | | | | | | | | | | | | | | |
| 50 | 105 | 15 | | | | | | | 125 | 17 | | | | | | | | | | | | | | |
| 23:00 | 112 | 15 | 120 | 96 | 82 | 21 | 16 | 14 | 133 | 17 | 90 | 78 | 65 | 21 | 16 | 13 | | | | | | | | |
| 10 | 110 | 15 | | | | | | | 133 | 17 | | | | | | | | | | | | | | |
| 20 | 118 | 14 | | | | | | | 136 | 15 | | | | | | | | | | | | | | |
| 30 | 112 | 13 | 122 | 105 | 90 | 21 | 17 | 15 | 140 | 17 | 105 | 92 | 68 | 20 | 18 | 15 | | | | | | | | |

17 March 1965 — Experiment No. 43 — Tracer Release from 2000 to 2100 CST

| Time (CST) | Lower Level (127 ft) D deg | Lower Level (127 ft) S mph | Lower Level (127 ft) D Range 1 | Lower Level (127 ft) D Range 3 | Lower Level (127 ft) D Range 5 | Lower Level (127 ft) S Range 1 | Lower Level (127 ft) S Range 3 | Lower Level (127 ft) S Range 5 | Middle Level (255 ft) D deg | Middle Level (255 ft) S mph | Middle Level (255 ft) D Range 1 | Middle Level (255 ft) D Range 3 | Middle Level (255 ft) D Range 5 | Middle Level (255 ft) S Range 1 | Middle Level (255 ft) S Range 3 | Middle Level (255 ft) S Range 5 | Upper Level (459 ft) D deg | Upper Level (459 ft) S mph | Upper Level (459 ft) D Range 1 | Upper Level (459 ft) D Range 3 | Upper Level (459 ft) D Range 5 | Upper Level (459 ft) S Range 1 | Upper Level (459 ft) S Range 3 | Upper Level (459 ft) S Range 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19:30 | - | - | | | | | | | - | - | | | | | | | - | - | | | | | | |
| 40 | - | - | | | | | | | - | - | | | | | | | - | - | | | | | | |
| 50 | - | - | | | | | | | | | | | | | | | | | | | | | | |
| 20:00 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 10 | 254 | 27 | | | | | | | - | - | | | | | | | - | - | | | | | | |
| 20 | 262 | 26 | | | | | | | - | - | | | | | | | - | - | | | | | | |
| 30 | 260 | 23 | 115 | 90 | 71 | 28 | 23 | 21 | 285 | 30 | - | - | - | - | - | - | 293 | 36 | - | - | - | - | - | - |
| 40 | 264 | 20 | | | | | | | 282 | 29 | | | | | | | 298 | 32 | | | | | | |
| 50 | 262 | 25 | | | | | | | 294 | 25 | | | | | | | 298 | 28 | | | | | | |
| 21:00 | 258 | 24 | 116 | 95 | 78 | 29 | 25 | 21 | 300 | 23 | 74 | 65 | 60 | 25 | 22 | 20 | 300 | 27 | 85 | 64 | 52 | 27 | 22 | 19 |
| 10 | 255 | 22 | | | | | | | 296 | 25 | | | | | | | 295 | 29 | | | | | | |
| 20 | 262 | 24 | | | | | | | 290 | 32 | | | | | | | 288 | 35 | | | | | | |
| 30 | 268 | 22 | 102 | 81 | 75 | 22 | 17 | 15 | 280 | 28 | 109 | 68 | 56 | 28 | 23 | 21 | 290 | 30 | 82 | 68 | 50 | 27 | 23 | 20 |
| 40 | 260 | 22 | | | | | | | 288 | 25 | | | | | | | 295 | 28 | | | | | | |
| 50 | 254 | 21 | | | | | | | 292 | 24 | | | | | | | 300 | 28 | | | | | | |
| 22:00 | 262 | 24 | 119 | 78 | 68 | 23 | 18 | 15 | 295 | 23 | 89 | 69 | 59 | 20 | 16 | 15 | 296 | 25 | 73 | 59 | 36 | 23 | 20 | 15 |
| 10 | 262 | 21 | | | | | | | 280 | 24 | | | | | | | 284 | 26 | | | | | | |
| 20 | 260 | 22 | | | | | | | 284 | 25 | | | | | | | 290 | 27 | | | | | | |
| 30 | 255 | 19 | 115 | 100 | 80 | 21 | 16 | 13 | 290 | 23 | 92 | 73 | 62 | 21 | 17 | 15 | 295 | 27 | 85 | 75 | 54 | 18 | 15 | 11 |
| 40 | 261 | 23 | | | | | | | 290 | 23 | | | | | | | 300 | 28 | | | | | | |
| 50 | 256 | 22 | | | | | | | 283 | 23 | | | | | | | 285 | 25 | | | | | | |
| 23:00 | 258 | 19 | 87 | 71 | 60 | 20 | 17 | 13 | 286 | 22 | 95 | 82 | 70 | 19 | 15 | 13 | 290 | 25 | 90 | 79 | 51 | 17 | 15 | 11 |

TABLE 18. VERTICAL TEMPERATURE-DIFFERENCE MEASUREMENTS, KMOX-TV TOWER

Symbols

$T_r$(°F) : Temperature at 124 feet in whole degrees Fahrenheit

$\Delta T_1$ : Temperature at 249 feet minus the temperature at 124 feet in degrees Fahrenheit. A temperature difference of -0.7 corresponds to the adiabatic lapse rate.

$\Delta T_2$ : Temperature at 452 feet minus the temperature at 124 feet in degrees Fahrenheit. A temperature difference of -1.8 corresponds to the adiabatic lapse rate.

# Table 18 (continued). VERTICAL TEMPERATURE-DIFFERENCE MEASUREMENTS, KMOX-TV TOWER

Experiment No. 3
28 May 1963
Tracer Release: 1000 to 1100 CST

| t(CST) | $T_p$(°F) | $\Delta T_1$ | $\Delta T_2$ |
|---|---|---|---|
| | 59.0 | +1.4 | +0.5 |
| | 60.8 | +1.1 | +1.0 |
| | 60.9 | +1.0 | +0.3 |
| | 60.9 | +1.0 | +0.4 |
| | 59.4 | +1.4 | +1.1 |
| | 59.3 | +1.2 | +1.0 |
| 1000 | 59.0 | +1.2 | +0.7 |
| | 59.2 | +1.3 | +1.4 |
| | 59.1 | +1.2 | +0.4 |
| | 59.0 | +1.2 | +0.4 |
| | 60.8 | +1.0 | +1.1 |
| | 59.2 | +1.4 | +0.6 |
| 1030 | 59.0 | +1.2 | +0.6 |
| | 59.1 | +1.1 | +0.6 |
| | 59.5 | +1.3 | +0.1 |
| | 59.1 | +0.8 | +0.9 |
| | 59.2 | +1.4 | +0.7 |
| | 59.2 | +1.2 | +0.1 |
| 1100 | 59.3 | +1.2 | +0.5 |
| | 59.5 | +1.4 | +0.5 |
| | 59.4 | +1.2 | +0.8 |
| | 59.6 | +1.0 | +0.5 |
| | 59.8 | +1.0 | +0.5 |
| | 59.5 | +1.1 | +0.8 |
| 1130 | 59.5 | +1.1 | +0.6 |
| | 59.9 | +1.0 | +1.1 |
| | 59.9 | +1.1 | +0.1 |
| | 59.8 | +1.2 | +1.8 |
| | 70.2 | +1.0 | +0.1 |
| | 59.5 | +1.2 | +0.5 |
| 1200 | 59.9 | +1.2 | +0.5 |

Experiment No. 27
10 October 1964
Tracer Release: 1130 to 1230 CST

| t(CST) | $T_p$(°F) | $\Delta T_1$ | $\Delta T_2$ |
|---|---|---|---|
| | 47.0 | -0.8 | -2.0 |
| | 47.0 | -0.6 | -1.8 |
| | 47.1 | -0.7 | -2.1 |
| | 47.2 | -0.8 | -2.2 |
| | 47.5 | -1.0 | -2.5 |
| 1130 | 47.0 | -0.8 | -2.0 |
| | 48.0 | -1.2 | -2.3 |
| | 48.0 | -0.8 | -2.7 |
| | 48.0 | -1.0 | -2.1 |
| | 48.3 | -0.8 | -2.2 |
| | 48.8 | -0.8 | -2.0 |
| 1200 | 48.7 | -0.9 | -2.2 |
| | 49.2 | -0.9 | -2.0 |
| | 48.8 | -1.0 | -1.8 |
| | 48.8 | -1.1 | -2.1 |
| | 49.0 | -0.8 | -2.3 |
| | 48.8 | -0.9 | -2.1 |
| 1230 | 48.9 | -0.9 | -2.5 |
| | 49.0 | -0.9 | -2.3 |
| | 49.4 | -0.9 | -2.2 |
| | 49.8 | -1.6 | -2.5 |
| | 50.0 | -1.0 | -2.3 |
| | 49.8 | -0.9 | -2.2 |
| | 49.8 | -0.5 | -2.0 |
| 1300 | 49.6 | -1.0 | -2.1 |
| | 50.0 | -1.0 | -2.5 |
| | 50.2 | -1.0 | -2.7 |
| | 51.2 | -0.7 | -2.3 |
| | 51.0 | -0.8 | -2.3 |
| | 51.2 | -1.0 | -2.6 |
| 1330 | 50.7 | -0.9 | -2.4 |

Experiment No. 28
11 October 1964
Tracer Release: 1105 to 1205 CST

| t(CST) | $T_p$(°F) | $\Delta T_1$ , $\Delta T_2$ |
|---|---|---|
| | 50.0 | -0.8 -2.1 |
| | 50.6 | -0.9 -1.8 |
| | 50.8 | -0.9 -3.6 |
| | 50.4 | -0.9 -1.7 |
| | 51.2 | -0.9 -1.9 |
| 1100 | 51.0 | -0.9 -2.2 |
| | 51.5 | -1.2 -2.3 |
| | 51.8 | -0.8 -2.4 |
| | 51.8 | -1.2 -2.5 |
| | 51.7 | -0.9 -2.1 |
| | 52.2 | -1.0 -2.6 |
| | 52.7 | -1.2 -2.9 |
| 1130 | 52.0 | -1.1 -2.5 |
| | 52.6 | -1.1 -2.6 |
| | 53.2 | -1.1 -2.8 |
| | 53.8 | -1.3 -2.6 |
| | 53.9 | -1.0 -2.6 |
| | 54.2 | -1.0 -2.4 |
| 1200 | 53.5 | -1.1 -2.6 |
| | 54.0 | -0.5 -2.4 |
| | 54.7 | -0.9 -2.2 |
| | 55.0 | -1.0 -3.5 |
| | 54.7 | -0.7 -2.5 |
| | 55.3 | -0.6 -2.0 |
| 1230 | 54.7 | -0.7 -2.5 |
| | 55.2 | -0.8 -2.5 |
| | 55.1 | -0.8 -2.2 |
| | 55.2 | -0.8 -2.1 |
| | 55.9 | -0.8 -2.5 |
| | 56.0 | -0.8 -2.5 |
| 1300 | 55.5 | -0.8 -2.4 |

Experiment No. 29
12 October 1964
Tracer Release: 2000 to 2100 CST

| t(CST) | $T_p$(°F) | $\Delta T_1$ | $\Delta T_2$ |
|---|---|---|---|
| | 60.3 | -0.6 | -0.7 |
| | 60.2 | -0.6 | -0.6 |
| | 60.2 | -0.5 | -0.4 |
| | 60.1 | -0.5 | -0.2 |
| | 60.0 | -0.4 | -0.2 |
| 2000 | 60.2 | -0.5 | -0.4 |
| | 59.8 | -0.5 | -0.6 |
| | 59.9 | -0.5 | -1.9 |
| | 59.9 | -0.5 | -1.9 |
| | 59.8 | -0.6 | -1.0 |
| | 59.6 | -0.7 | -1.5 |
| | 59.5 | -0.8 | -1.6 |
| 2030 | 59.8 | -0.6 | -1.4 |
| | 59.5 | -0.7 | -1.2 |
| | 59.3 | -0.6 | -1.4 |
| | 59.2 | -0.6 | -1.4 |
| | 59.2 | -0.6 | -1.4 |
| | 59.2 | -0.6 | -1.4 |
| 2100 | 59.3 | -0.6 | -1.4 |
| | 59.0 | -0.6 | -1.3 |
| | 58.8 | -0.6 | -1.2 |
| | 58.6 | -0.7 | -1.1 |
| | 58.4 | -0.6 | -1.1 |
| | 58.2 | -0.6 | -0.8 |
| 2130 | 58.6 | -0.6 | -1.4 |
| | 58.0 | -0.6 | -0.8 |
| | 57.8 | -0.6 | -0.5 |
| | 57.8 | -0.5 | -0.7 |
| | 57.8 | -0.4 | -0.9 |
| | 57.8 | -0.5 | -1.0 |
| | 57.8 | -0.5 | -0.8 |
| 2200 | | | |
| | 57.6 | -0.5 | -1.0 |
| | 57.6 | -0.5 | -0.8 |
| | 57.3 | -0.5 | -0.9 |
| | 57.6 | -0.6 | -1.0 |
| | 57.3 | -0.5 | -2.2 |
| | 57.2 | -0.5 | -2.0 |
| 2230 | 57.5 | -0.5 | -1.3 |
| | 57.0 | -0.5 | -1.0 |
| | 56.9 | -0.6 | -0.8 |
| | 56.8 | -0.6 | -0.6 |
| | 56.8 | -0.5 | -0.6 |
| | 56.8 | -0.5 | -0.9 |
| 2300 | 56.9 | -0.5 | -0.8 |

Experiment No. 30
16 October 1964
Tracer Release: 2000 to 2100 CST

| t(CST) | $T_p$(°F) | $\Delta T_1$ | $\Delta T_2$ |
|---|---|---|---|
| | 71.8 | +0.4 | -0.3 |
| | 71.8 | +0.5 | +0.1 |
| | 70.9 | +0.8 | +0.9 |
| | 70.2 | +1.2 | +0.8 |
| | 70.8 | +0.7 | +0.4 |
| 2000 | 71.1 | +0.7 | +0.4 |
| | 71.2 | +0.5 | +0.1 |
| | 71.4 | +0.6 | +0.1 |
| | 71.0 | +1.2 | +0.8 |
| | 70.4 | +1.4 | +0.8 |
| | 70.2 | +0.6 | +1.0 |
| 2030 | 70.8 | +0.9 | +0.6 |
| | 70.2 | +1.2 | +1.3 |
| | 69.8 | +1.4 | +1.2 |
| | 69.8 | +1.4 | +1.4 |
| | 69.8 | +1.4 | +1.4 |
| | 69.8 | +1.6 | +1.6 |
| 2100 | 69.9 | +1.4 | +1.4 |
| | 69.4 | +2.3 | +2.2 |
| | 69.2 | +2.1 | +1.6 |
| | 69.4 | +1.6 | +1.6 |
| | 68.9 | +2.7 | +2.6 |
| | 68.5 | +2.6 | +2.6 |
| | 68.2 | +1.8 | +2.8 |
| 2130 | 68.9 | +2.2 | +2.2 |
| | 68.0 | +1.2 | +2.6 |
| | 68.3 | +1.0 | +2.5 |
| | 68.2 | +0.5 | +2.6 |
| | 67.8 | +0.8 | +3.2 |
| | 67.6 | +2.0 | +3.0 |
| 2200 | 68.0 | +1.1 | +2.8 |
| | 67.8 | +2.0 | +2.9 |
| | 67.4 | +2.4 | +4.1 |
| | 66.5 | +2.9 | +4.3 |
| | 66.2 | +3.6 | +4.5 |
| | 66.0 | +3.8 | +4.5 |
| 2230 | 66.8 | +2.9 | +4.1 |
| | 66.2 | +3.7 | +4.0 |
| | 66.5 | +3.8 | +3.8 |
| | 66.8 | +3.7 | +4.0 |
| | 66.3 | +3.8 | +4.3 |
| | 66.0 | +4.0 | +4.4 |
| 2300 | 66.- | +3.8 | +4.1 |

Experiment No. 31
17 October 1964
Tracer Release: 1325 to 1415 CST

| t(CST) | $T_p$(°F) | $\Delta T_1$ | $\Delta T_2$ |
|---|---|---|---|
| | 78.2 | -0.8 | -2.3 |
| | 78.6 | -0.9 | -2.0 |
| | 78.5 | -0.9 | -2.3 |
| | 78.2 | -0.6 | -2.2 |
| | 78.2 | -0.9 | -2.1 |
| 1330 | 78.3 | -0.8 | -2.2 |
| | 78.5 | -0.9 | -2.0 |
| | 78.6 | -0.8 | -2.0 |
| | 78.6 | -0.7 | -2.4 |
| | 78.8 | -0.9 | -2.6 |
| | 79.6 | -1.0 | -2.4 |
| 1350 | 78.8 | -0.9 | -2.3 |
| | 78.9 | -0.8 | -2.1 |
| | 79.1 | -0.8 | -2.4 |
| | 79.6 | -0.8 | -2.2 |
| | 79.5 | -1.0 | -2.3 |
| | 79.8 | -1.0 | -2.4 |
| 1420 | 80.0 | -1.0 | -2.4 |
| | 79.5 | -0.9 | -2.3 |
| | 79.4 | -0.5 | -2.2 |
| | 80.2 | -0.8 | -1.9 |
| | 80.1 | -0.8 | -2.1 |
| | 80.6 | -0.8 | -2.2 |
| | 80.4 | -0.8 | -2.2 |
| 1450 | 80.1 | -0.7 | -2.1 |
| | 80.8 | -0.9 | -2.2 |
| | 80.8 | -0.8 | -2.0 |
| | 80.5 | -0.8 | -2.0 |
| | 80.4 | -0.8 | -2.0 |
| | 80.5 | -0.9 | -1.9 |
| 1520 | 80.6 | -0.8 | -2.0 |

# Table 18 (continued). VERTICAL TEMPERATURE-DIFFERENCE MEASUREMENTS, KMOX-TV TOWER

Experiment No. 32
19 October 1964
Tracer Release: 1945 to 2045 CST

| t(CST) | $T_r$(°F) | $\Delta T_1$ | $\Delta T_2$ |
|---|---|---|---|
| | 48.2 | -0.8 | -2.0 |
| | 48.1 | -0.7 | -2.0 |
| | 48.1 | -0.9 | -2.0 |
| | 48.0 | -0.9 | -2.0 |
| | 48.0 | -0.9 | -1.9 |
| 1940 | 48.1 | -0.8 | -2.0 |
| | 47.8 | -0.8 | -1.9 |
| | 47.8 | -0.9 | -2.0 |
| | 47.7 | -0.9 | -2.0 |
| | 47.6 | -0.9 | -2.2 |
| | 47.4 | -0.8 | -2.0 |
| | 47.2 | -0.8 | -2.0 |
| 2010 | 47.6 | -0.8 | -2.0 |
| | 47.2 | -0.9 | -2.1 |
| | 47.1 | -0.9 | -1.9 |
| | 46.8 | -0.7 | -2.1 |
| | 47.0 | -0.9 | -1.9 |
| | 47.0 | -0.8 | -2.0 |
| | 46.8 | -0.8 | -2.1 |
| 2040 | 47.0 | -0.8 | -2.0 |
| | 46.8 | -0.7 | -1.9 |
| | 46.8 | -0.8 | -2.1 |
| | 47.0 | -0.9 | -2.1 |
| | 46.9 | -0.9 | -2.1 |
| | 46.7 | -0.8 | -2.1 |
| 2110 | 46.8 | -0.8 | -2.1 |
| | 46.8 | -0.8 | -2.0 |
| | 46.8 | -0.9 | -2.1 |
| | 46.9 | -0.8 | -2.1 |
| | 46.8 | -0.8 | -2.0 |
| | 46.6 | -0.8 | -2.1 |
| 2140 | 46.8 | -0.8 | -2.1 |
| | 46.2 | -0.8 | -2.0 |
| | 46.2 | -0.8 | -2.1 |
| | 46.0 | -0.8 | -2.0 |
| | 45.9 | -0.9 | -2.1 |
| | 45.8 | -0.9 | -2.0 |
| 2210 | 46.0 | -0.8 | -2.0 |
| | 45.4 | -0.9 | -2.1 |
| | 45.1 | -0.9 | -2.1 |
| | 45.0 | -0.9 | -2.1 |
| | 44.8 | -0.9 | -2.0 |
| | 44.9 | -0.8 | -1.9 |
| 2240 | 44.9 | -0.9 | -2.1 |

Experiment No. 33
20 October 1964
Tracer Release: 1915 to 2015 CST

| t(CST) | $T_r$(°F) | $\Delta T_1$ | $\Delta T_2$ |
|---|---|---|---|
| | 55.8 | -0.5 | -1.0 |
| | 55.8 | -0.6 | -1.1 |
| | 55.8 | -0.6 | -0.8 |
| | 55.9 | -0.5 | -0.3 |
| | 55.8 | -0.5 | -0.5 |
| 1910 | 55.8 | -0.5 | -0.7 |
| | 55.6 | -0.6 | -0.9 |
| | 55.4 | -0.6 | -1.2 |
| | 55.0 | -0.5 | -0.8 |
| | 54.9 | -0.4 | 0.0 |
| | 55.0 | -0.5 | -0.4 |
| 1940 | 55.2 | -0.5 | -0.7 |
| | 54.8 | -0.6 | -0.4 |
| | 54.7 | -0.4 | -0.2 |
| | 54.7 | -0.3 | -0.6 |
| | 54.5 | -0.5 | -0.6 |
| | 54.2 | -0.6 | -0.5 |
| | 54.1 | -0.5 | 0.0 |
| 2010 | 54.5 | -0.5 | -0.4 |
| | 54.1 | -0.4 | -0.3 |
| | 53.9 | -0.5 | -0.3 |
| | 53.7 | -0.6 | 0.0 |
| | 53.7 | -0.5 | -0.4 |
| | 53.6 | -0.5 | -0.4 |
| | 53.8 | -0.5 | -0.3 |
| 2040 | | | |
| | 53.4 | -0.5 | -0.2 |
| | 53.2 | -0.5 | -0.3 |
| | 53.2 | -0.5 | 0.0 |
| | 53.0 | -0.5 | -0.1 |
| | 52.9 | -0.5 | -0.6 |
| | 53.1 | -0.5 | -0.2 |
| 2110 | | | |
| | 52.8 | -0.5 | -0.1 |
| | 52.8 | -0.5 | -0.5 |
| | 52.6 | -0.5 | -0.4 |
| | 52.6 | -0.5 | -0.6 |
| | 52.2 | -0.6 | -0.7 |
| | 52.5 | -0.5 | -0.5 |
| 2140 | | | |
| | 52.0 | -0.5 | -0.4 |
| | 52.0 | -0.5 | 0.0 |
| | 52.0 | -0.5 | -0.5 |
| | 52.0 | -0.5 | -0.1 |
| | 52.0 | -0.5 | -0.6 |
| | 52.0 | -0.5 | -0.1 |
| 2210 | | | |

Experiment No. 34
21 October 1964
Tracer Release: 1920 to 2020 CST

| t(CST) | $T_r$(°F) | $\Delta T_1$ | $\Delta T_2$ |
|---|---|---|---|
| | 61.8 | -0.6 | -1.6 |
| | 61.4 | -0.8 | -1.7 |
| | 61.0 | -0.8 | -1.8 |
| | 60.8 | -0.8 | -1.8 |
| | 60.5 | -0.8 | -1.8 |
| 1900 | 61.1 | -0.8 | -1.7 |
| | 60.0 | -0.8 | -1.8 |
| | 59.8 | -0.8 | -1.8 |
| | 59.3 | -0.8 | -1.8 |
| | 58.8 | -0.8 | -1.7 |
| | 58.6 | -0.8 | -1.8 |
| | 58.2 | -0.8 | -1.8 |
| 1930 | 59.1 | -0.8 | -1.8 |
| | 58.0 | -0.8 | -1.8 |
| | 57.8 | -0.7 | -1.8 |
| | 57.5 | -0.8 | -1.7 |
| | 57.3 | -0.8 | -1.7 |
| | 57.1 | -0.8 | -1.8 |
| 2000 | 57.5 | -0.8 | -1.8 |
| | 57.0 | -0.8 | -1.8 |
| | 56.6 | -0.8 | -1.8 |
| | 56.3 | -0.8 | -1.8 |
| | 56.2 | -0.8 | -1.8 |
| | 56.0 | -0.8 | -1.8 |
| 2030 | 56.4 | -0.8 | -1.8 |
| | 55.8 | -0.8 | -1.8 |
| | 55.5 | -0.8 | -1.9 |
| | 55.2 | -0.8 | -1.8 |
| | 54.9 | -0.8 | -1.8 |
| | 54.5 | -0.8 | -1.8 |
| 2100 | 55.2 | -0.8 | -1.8 |
| | 54.7 | -0.8 | -1.8 |
| | 53.9 | -0.8 | -1.8 |
| | 53.7 | -0.8 | -1.8 |
| | 53.5 | -0.8 | -1.8 |
| | 53.1 | -0.8 | -1.7 |
| 2130 | 53.7 | -0.8 | -1.8 |
| | 52.9 | -0.8 | -1.8 |
| | 52.8 | -0.8 | -1.8 |
| | 52.3 | -0.8 | -1.7 |
| | 52.2 | -0.8 | -1.6 |
| | 52.1 | -0.8 | -1.6 |
| | 52.0 | -0.8 | -1.6 |
| 2200 | 52.4 | -0.8 | -1.7 |

Experiment No. 35
6 March 1965
Tracer Release: 1230 to 1330 CST

| t(CST) | $T_r$(°F) | $\Delta T_1$ | $\Delta T_2$ |
|---|---|---|---|
| | 33.6 | -0.8 | -1.8 |
| | 33.5 | -0.9 | -2.0 |
| | 33.0 | -1.0 | -2.0 |
| | 32.9 | -0.9 | -2.0 |
| | 33.1 | -0.9 | -2.1 |
| | 33.4 | -0.9 | -2.1 |
| 1230 | 33.3 | -0.9 | -2.0 |
| | 33.8 | -0.9 | -2.0 |
| | 33.9 | -0.9 | -2.1 |
| | 33.9 | -0.9 | -2.1 |
| | 33.9 | -0.8 | -2.0 |
| | 33.9 | -1.0 | -2.2 |
| 1300 | 33.9 | -0.9 | -2.1 |
| | 33.9 | -1.0 | -2.1 |
| | 33.9 | -1.0 | -2.1 |
| | 33.6 | -0.9 | -2.0 |
| | 33.8 | -0.9 | -2.1 |
| | 33.6 | -1.0 | -2.2 |
| 1330 | 33.8 | -1.0 | -2.1 |
| | 33.7 | -0.9 | -2.1 |
| | 33.8 | -0.8 | -2.1 |
| | 33.8 | -0.8 | -2.2 |
| | 33.5 | -0.8 | -2.1 |
| | 33.4 | -0.9 | -2.0 |
| 1400 | 33.6 | -0.8 | -2.1 |
| | 33.2 | -0.9 | -2.0 |
| | 33.2 | -0.9 | -2.1 |
| | 33.5 | -0.9 | -2.1 |
| | 33.5 | -0.9 | -2.2 |
| | 33.6 | -0.8 | -2.2 |
| 1430 | 33.4 | -0.9 | -2.1 |

Experiment No. 36
7 March 1965
Tracer Release: 1230 to 1330 CST

| t(CST) | $T_r$(°F) | $\Delta T_1$ | $\Delta T_2$ |
|---|---|---|---|
| | 33.9 | -0.8 | -1.9 |
| | 33.9 | -0.9 | -2.0 |
| | 34.0 | -0.8 | -2.1 |
| | 34.2 | -0.8 | -2.0 |
| | 34.4 | -0.8 | -2.0 |
| | 34.5 | -0.9 | -2.0 |
| 1230 | 34.2 | -0.8 | -2.0 |
| | 34.8 | -0.8 | -2.0 |
| | 34.5 | -0.6 | -2.0 |
| | 34.8 | -0.7 | -1.9 |
| | 34.8 | -0.8 | -1.9 |
| | 35.0 | -0.8 | -1.9 |
| 1300 | 34.8 | -0.7 | -1.9 |
| | 35.0 | -0.8 | -2.1 |
| | 35.0 | -0.8 | -1.9 |
| | 35.0 | -0.8 | -2.0 |
| | 34.8 | -0.9 | -2.0 |
| | 34.8 | -0.8 | -2.0 |
| 1330 | 34.9 | -0.8 | -2.0 |
| | 34.8 | -0.8 | -1.9 |
| | 34.8 | -0.8 | -2.0 |
| | 35.2 | -0.8 | -1.9 |
| | 35.0 | -0.7 | -2.0 |
| | 35.3 | -0.7 | -1.9 |
| 1400 | 35.0 | -0.8 | -1.9 |
| | 35.5 | -0.8 | -2.0 |
| | 35.3 | -0.7 | -2.0 |
| | 35.6 | -0.6 | -2.0 |
| | 35.6 | -0.7 | -2.0 |
| | 35.6 | -0.7 | -2.0 |
| 1430 | 35.5 | -0.7 | -2.0 |

Experiment No. 37
8 March 1965
Tracer Release: 2030 to 2130 CST

| t(CST) | $T_r$(°F) | $\Delta T_1$ | $\Delta T_2$ |
|---|---|---|---|
| | 39.2 | -0.6 | -2.0 |
| | 39.2 | -0.6 | -2.1 |
| | 39.0 | -0.7 | -2.1 |
| | 38.9 | -0.7 | -2.0 |
| | 38.8 | -0.6 | -2.0 |
| 2030 | 39.0 | -0.6 | -2.0 |
| | 38.8 | -0.6 | -2.0 |
| | 38.7 | -0.7 | -2.0 |
| | 38.6 | -0.7 | -2.0 |
| | 38.5 | -0.7 | -2.0 |
| | 38.5 | -0.7 | -2.0 |
| 2100 | 38.6 | -0.7 | -2.0 |
| | 38.2 | -0.6 | -2.0 |
| | 38.2 | -0.7 | -2.0 |
| | 38.2 | -0.6 | -1.9 |
| | 38.2 | -0.6 | -2.0 |
| | 38.2 | -0.6 | -2.0 |
| 2130 | 38.2 | -0.6 | -2.0 |
| | 38.1 | -0.7 | -2.0 |
| | 38.1 | -0.7 | -2.0 |
| | 38.1 | -0.6 | -2.0 |
| | 38.0 | -1.1 | -2.0 |
| | 37.9 | -0.7 | -2.0 |
| | 37.8 | -0.6 | -2.0 |
| 2200 | 38.0 | -0.7 | -2.0 |
| | 37.8 | -0.6 | -2.0 |
| | 37.6 | -0.6 | -2.0 |
| | 37.3 | -0.7 | -2.0 |
| | 37.2 | -0.7 | -2.0 |
| | 37.1 | -0.7 | -2.0 |
| 2230 | 37.4 | -0.7 | -2.0 |
| | 37.0 | -0.7 | -2.1 |
| | 36.8 | -0.8 | -2.0 |
| | 36.6 | -0.6 | -1.9 |
| | 36.2 | -0.6 | -2.0 |
| | 36.2 | -0.6 | -2.0 |
| 2300 | 36.6 | -0.7 | -2.0 |
| | 36.1 | -0.6 | -2.0 |
| | 36.1 | -0.6 | -1.9 |
| | 36.0 | -0.6 | -2.0 |
| | 35.9 | -0.7 | -1.9 |
| | 35.8 | -0.7 | -1.9 |
| 2330 | 36.0 | -0.6 | -1.9 |

## Table 18 (continued). VERTICAL TEMPERATURE-DIFFERENCE MEASUREMENTS, KMOX-TV TOWER

Experiment No. 38
11 March 1965
Tracer Release: 2010 to 2130 CST

| t(CST) | $T_p$(°F) | $\Delta E_1$ | $\Delta E_2$ |
|---|---|---|---|
| | 45.2 | -0.7 | -1.6 |
| | 45.2 | -0.8 | -1.7 |
| | 45.2 | -0.6 | -1.7 |
| | 45.2 | -0.6 | -1.6 |
| | 45.0 | -0.6 | -1.6 |
| 2030 | 45.2 | -0.7 | -1.6 |
| | 45.0 | -0.6 | -1.4 |
| | 44.8 | -0.4 | -1.2 |
| | 44.8 | -0.5 | -1.5 |
| | 44.8 | -0.5 | -1.9 |
| | 45.0 | -0.6 | -1.9 |
| 2100 | 44.9 | -0.5 | -1.6 |
| | 44.8 | -0.6 | -2.0 |
| | 44.5 | -0.7 | -2.0 |
| | 44.2 | -0.7 | -2.0 |
| | 43.9 | -0.8 | -2.0 |
| | 43.8 | -0.7 | -2.0 |
| 2130 | 44.2 | -0.7 | -2.0 |
| | 43.6 | -0.8 | -2.0 |
| | 43.2 | -0.6 | -1.9 |
| | 43.1 | -0.7 | -1.9 |
| | 43.0 | -0.6 | -1.9 |
| | 42.8 | -0.6 | -1.9 |
| | 42.7 | -0.7 | -1.9 |
| 2200 | 43.1 | -0.7 | -1.9 |
| | 42.6 | -0.8 | -1.9 |
| | 42.6 | -0.7 | -1.9 |
| | 42.5 | -0.7 | -1.9 |
| | 42.3 | -0.7 | -1.9 |
| | 42.1 | -0.7 | -1.9 |
| 2230 | 42.4 | -0.7 | -1.9 |
| | 42.1 | -0.6 | -1.9 |
| | 42.0 | -0.6 | -1.9 |
| | 41.9 | -0.6 | -1.8 |
| | 41.9 | -0.6 | -1.9 |
| | 41.9 | -0.6 | -1.9 |
| 2300 | 42.0 | -0.6 | -1.9 |
| | 41.8 | -0.6 | -2.0 |
| | 41.8 | -0.6 | -1.9 |
| | 41.3 | -0.6 | -1.9 |
| | 41.3 | -0.7 | -2.0 |
| | 41.2 | -0.7 | -2.0 |
| 2100 | 41.5 | -0.6 | -2.0 |

Experiment No. 39
13 March 1965
Tracer Release: 1220 to 1320 CST

| t(CST) | $T_p$(°F) | $\Delta E_1$ | $\Delta E_2$ |
|---|---|---|---|
| | 39.6 | -0.8 | -2.1 |
| | 39.7 | -0.9 | -2.7 |
| | 40.6 | -1.2 | -2.2 |
| | 40.6 | -0.8 | -2.2 |
| | 40.8 | -0.6 | -2.4 |
| 1220 | 40.3 | -0.9 | -2.3 |
| | 41.0 | -0.8 | -2.4 |
| | 40.8 | -0.6 | -2.2 |
| | 40.4 | -0.8 | -2.1 |
| | 40.7 | -1.2 | -2.5 |
| | 41.2 | -1.0 | -2.6 |
| 1250 | 40.8 | -0.9 | -2.4 |
| | 41.8 | -1.2 | -2.2 |
| | 41.2 | -0.8 | -2.0 |
| | 41.8 | -1.1 | -2.2 |
| | 41.4 | -0.6 | -2.2 |
| | 41.6 | -0.8 | -2.4 |
| 1320 | 41.6 | -0.9 | -2.3 |
| | 42.8 | -1.2 | -2.2 |
| | 42.0 | -1.1 | -1.8 |
| | 42.0 | -0.5 | -2.2 |
| | 42.8 | -0.8 | -2.4 |
| | 43.7 | -1.2 | -2.4 |
| | 43.4 | -0.6 | -1.9 |
| 1350 | 42.8 | -0.9 | -2.2 |
| | 43.2 | -0.5 | -1.6 |
| | 43.4 | -0.7 | -2.3 |
| | 44.2 | -0.9 | -2.2 |
| | 44.4 | -0.8 | -2.2 |
| | 44.2 | -0.6 | -2.1 |
| 1420 | 43.9 | -0.7 | -2.1 |

Experiment No. 40
14 March 1965
Tracer Release: 1100 to 1200 CST

| t(CST) | $T_p$(°F) | $\Delta E_1$ | $\Delta E_2$ |
|---|---|---|---|
| | 37.2 | -1.1 | -2.4 |
| | 37.8 | -1.2 | -2.5 |
| | 37.9 | -1.4 | -2.6 |
| | 36.9 | -1.0 | -2.5 |
| | 38.0 | -1.2 | -2.5 |
| 1100 | 37.6 | -1.2 | -2.5 |
| | 38.0 | -1.2 | -2.6 |
| | 37.9 | -1.1 | -2.4 |
| | 38.0 | -0.8 | -2.4 |
| | 38.7 | -1.1 | -2.6 |
| | 39.2 | -1.1 | -2.3 |
| 1130 | 38.6 | -1.1 | -2.5 |
| | 38 | -1.2 | -2.7 |
| | 38.8 | -1.4 | -2.6 |
| | 39.3 | -1.2 | -2.9 |
| | 39.8 | -1.2 | -2.6 |
| | 40.0 | -1.3 | -2.8 |
| 1200 | 39.3 | -1.3 | -2.7 |
| | 40.5 | -1.3 | -2.8 |
| | 40.5 | -1.4 | -2.9 |
| | 40.8 | -1.1 | -2.6 |
| | 40.2 | -1.4 | -2.6 |
| | 40.2 | -1.2 | -2.5 |
| | 40.8 | -1.2 | -2.6 |
| 1230 | 40.5 | -1.3 | -2.7 |
| | 40.8 | -1.4 | -2.5 |
| | 41.2 | -1.3 | -2.8 |
| | 41.1 | -1.2 | -2.5 |
| | 41.6 | -1.3 | -2.9 |
| | 41.7 | -1.5 | -3.5 |
| 1300 | 41.3 | -1.3 | -2.8 |

Experiment No.41
15 March 1965
Tracer Release: 2050 to 2150 CST

| t(CST) | $T_p$(°F) | $\Delta E_1$ | $\Delta E_2$ |
|---|---|---|---|
| | 50.6 | -0.6 | -1.7 |
| | 50.4 | -0.6 | -1.6 |
| | 50.2 | -0.6 | -1.5 |
| | 50.2 | -0.6 | -1.5 |
| | 50.2 | -0.6 | -1.5 |
| 2050 | 50.3 | -0.6 | -1.6 |
| | 50.2 | -0.5 | -1.5 |
| | 50.1 | -0.5 | -1.5 |
| | 50.1 | -0.5 | -1.5 |
| | 50.0 | -0.5 | -1.3 |
| | 49.9 | -0.5 | -0.9 |
| 2120 | 50.1 | -0.5 | -1.3 |
| | 49.8 | -0.5 | -0.6 |
| | 49.8 | -0.3 | -0.6 |
| | 49.7 | -0.3 | -0.5 |
| | 49.5 | -0.3 | -0.4 |
| | 49.2 | -0.3 | -0.3 |
| 2150 | 49.6 | -0.3 | -0.5 |
| | 49.2 | -0.3 | -0.2 |
| | 48.8 | -0.4 | -0.3 |
| | 48.5 | -0.5 | -0.5 |
| | 48.3 | -0.5 | -1.1 |
| | 48.1 | -0.5 | -0.4 |
| | 47.6 | -0.2 | 0.0 |
| 2220 | 48.4 | -0.4 | -0.5 |
| | 47.3 | -0.2 | 40.1 |
| | 47.0 | -0.2 | 40.3 |
| | 47.0 | 0.0 | 0.0 |
| | 47.0 | 0.0 | -0.6 |
| | 46.8 | -0.2 | -0.7 |
| 2250 | 47.0 | -0.1 | -0.2 |
| | 45.8 | -0.4 | -0.4 |
| | 45.3 | -0.2 | -0.4 |
| | 45.2 | -0.5 | -0.6 |
| | 44.9 | -0.5 | -0.6 |
| | 44.8 | -0.4 | -0.6 |
| 2320 | 45.2 | -0.4 | -0.5 |
| | 44.2 | -0.5 | -0.6 |
| | 44.1 | -0.3 | -0.5 |
| | 43.9 | -0.4 | -0.3 |
| | 43.9 | -0.1 | -0.2 |
| | 43.8 | +0.1 | -0.1 |
| 2350 | 44.0 | -0.2 | -0.3 |

Experiment No.42
16 March 1965
Tracer Release: 2030 to 2130 CST

| t(CST) | $T_p$(°F) | $\Delta E_1$ | $\Delta E_2$ |
|---|---|---|---|
| | 58.6 | -0.4 | -1.2 |
| | 58.4 | -0.4 | -1.4 |
| | 58.8 | -0.4 | -1.6 |
| | 58.9 | -0.5 | -1.7 |
| | 58.9 | -0.6 | -1.8 |
| | 58.4 | -0.6 | -1.6 |
| 2030 | 58.7 | -0.5 | -1.6 |
| | 58.2 | -0.5 | -1.5 |
| | 58.2 | -0.5 | -1.5 |
| | 58.1 | -0.5 | -1.5 |
| | 57.9 | -0.5 | -1.5 |
| | 57.8 | -0.5 | -1.4 |
| 2100 | 58.0 | -0.5 | -1.5 |
| | 57.0 | -0.5 | -1.3 |
| | 56.8 | -0.4 | -1.2 |
| | 57.0 | -0.4 | -1.4 |
| | 57.0 | -0.5 | -1.5 |
| | 56.9 | -0.5 | -1.6 |
| 2130 | 56.9 | -0.5 | -1.4 |
| | 56.5 | -0.6 | -1.5 |
| | 56.6 | -0.5 | -1.6 |
| | 56.2 | -0.8 | -1.8 |
| | 56.2 | -0.6 | -1.5 |
| | 56.2 | -0.5 | -1.4 |
| 2200 | 56.3 | -0.6 | -1.6 |
| | 56.2 | -0.5 | -1.3 |
| | 56.2 | -0.4 | -1.5 |
| | 56.2 | -0.4 | -1.6 |
| | 56.3 | -0.5 | -1.6 |
| | 56.6 | -0.5 | -1.6 |
| 2230 | 56.3 | -0.5 | -1.5 |
| | 56.7 | -0.6 | -1.8 |
| | 56.3 | -0.5 | -1.8 |
| | 56.2 | -0.5 | -1.7 |
| | 56.2 | -0.5 | -1.6 |
| | 56.2 | -0.5 | -1.6 |
| | 56.0 | -0.5 | -1.5 |
| 2300 | 56.3 | -0.5 | -1.7 |
| | 56.5 | -0.5 | -1.5 |
| | 56.8 | -0.5 | -1.6 |
| | 57.0 | -0.5 | -1.7 |
| | 57.0 | -0.6 | -1.8 |
| | 57.0 | -0.6 | -1.8 |
| 2330 | 56.9 | -0.5 | -1.7 |

Experiment No. 43
17 March 1965
Tracer Release: 2000 to 2100 CST

| t(CST) | $T_p$(°F) | $\Delta E_1$ | $\Delta E_2$ |
|---|---|---|---|
| | 32.8 | -0.7 | -2.1 |
| | 32.5 | -0.7 | -2.1 |
| | 32.3 | -0.7 | -2.0 |
| | 32.2 | -0.7 | -2.0 |
| | 32.1 | -0.7 | -2.1 |
| 2000 | 32.4 | -0.7 | -2.1 |
| | 32.1 | -0.7 | -2.1 |
| | 32.1 | -0.8 | -2.1 |
| | 31.8 | -0.8 | -2.0 |
| | 32.0 | -0.7 | -2.0 |
| | 31.8 | -0.8 | -2.1 |
| | 31.6 | -0.9 | -2.1 |
| 2030 | 31.9 | -0.8 | -2.1 |
| | 30.8 | -0.8 | -2.0 |
| | 30.8 | -0.8 | -2.0 |
| | 30.8 | -0.8 | -2.0 |
| | 30.8 | -0.8 | -2.0 |
| | 30.3 | -0.8 | -2.1 |
| 2100 | 30.7 | -0.8 | -2.0 |
| | 30.5 | -0.8 | -2.0 |
| | 30.6 | -0.8 | -2.1 |
| | 30.0 | -0.8 | -2.1 |
| | 29.6 | -0.9 | -2.1 |
| | 29.0 | -0.8 | -2.1 |
| 2130 | 29.9 | -0.8 | -2.1 |
| | 28.9 | -0.8 | -2.1 |
| | 28.5 | -0.8 | -2.1 |
| | 28.3 | -0.8 | -2.1 |
| | 28.3 | -0.8 | -2.1 |
| | 28.2 | -0.8 | -2.1 |
| 2200 | 28.4 | -0.8 | -2.1 |
| | 28.1 | -0.8 | -2.1 |
| | 28.1 | -0.8 | -2.0 |
| | 28.1 | -0.8 | -2.1 |
| | 27.8 | -0.8 | -2.0 |
| | 27.3 | -0.8 | -2.1 |
| | 27.2 | -0.8 | -2.0 |
| 2230 | 27.8 | -0.8 | -2.0 |
| | 27.2 | -0.8 | -2.0 |
| | 27.2 | -0.8 | -2.0 |
| | 27.1 | -0.8 | -2.0 |
| | 27.1 | -0.8 | -2.0 |
| | 27.1 | -0.8 | -2.0 |
| 2300 | 27.1 | -0.8 | -2.0 |

# ACKNOWLEDGMENTS

A program as complicated as the St. Louis Dispersion Study was possible because of the contributions and cooperative efforts of many people.

The staff at Air Resources Field Research Office, Cincinnati, Ohio, designed the field program, performed most of the duties concerned with the investigations, and accomplished the data reduction and compilation of the results of this program. To them must go a large measure of credit for its success.

The United states Public Health Service and the St. Louis County Health Department, participants in the St. Louis - East St. Louis Interstate Air Pollution Study, provided personnel for the field program.

The cooperation and assistance of citizen and officials in the St. Louis area are appreciated. In particular, we wish to thank the staffs of KMOX-TV (Columbia Broadcasting System); Hazelwood High School; Lindbergh High School; the Missouri State Police (Station C); the U. S. Weather Bureau River Forecast Center (P. Light, Hydrologist-in-Charge), who permitted the use of their facilities and provided power for meteorological sites; the staff of the Weather Bureau Airport Station (C. N. Brancato, Meteorologist-in-Charge), who made available facilities for preparing forecasts for the experiments and cooperated in the use of the radar for tetroon tracking; the students of Washington University (Prof. E. Egerly, coordinator), who provided much of the manpower for the field program; and the countless others who provided electrical power and facilities for the dissemination and sampling sites during the tracer experiments.

# REFERENCES


Angell, J. K. and D. H. Pack, 1960: Analysis of some preliminary low-level constant level balloon (tetroon) flights. Mon. Wea. Rev., 88, 235-248.

Barad, M. L., editor, 1958: Project Prairie Grass, a field program in diffusion, Vol: I. AD 152572. 280 p. (OTS, U. S. Department of Commerce, Washington 25, D. C.).

Barad, M. L. and J. J. Fuquay, editors, 1962: Green Glow Diffusion Program, Vol. I. HW 71400, 77 p. (OTS, U. S. Department of Commerce, Washington 25, D. C.).

Beckman and Whitley, Inc., 1955: Beckman and Whitley technical manual for the model K-100A wind speed and direction recording system. Beckman and Whitley, Inc., San Carlos, California, pp. I-1 to I-7.

Bendix Aviation Corporation, 1956: Aerovane model 141 wind recorder, 120 wind transmitter. Bendix Aviation Corporation, Frieze Instrument Division, Baltimore, Maryland, 27 numbered p.

Brown, T. S. and F. X. Webster, 1964: FP tracer counting manual 163-2. Prepared for U. S. Weather Bureau by Metronics Associates, Inc. of Palo Alto, California, under contract No. CWB 10635.

Dumbauld, R. K., 1963: Meteorological tracer techniques for atmospheric diffusion studies. J. Appl. Meteor., 2, 437-443.

Leeds and Northrup Company, 1958: Thermohm temperature detectors. Leeds and Northrup Company, Philadelphia, Pennsylvania, 27 p.

Leighton, P. A., W. A. Perkins, S. W. Grinnel, and F. X. Webster, 1965: The Fluorescent particle atmospheric tracer. J. Appl. Meteor., 4, 334-348.

Pack, D. H., 1962: Air trajectories and turbulence statistics from weather radar using tetroons and radar transponders. Mon. Wea. Rev., 90, 491-506.

Pooler, F., Jr., 1964: A method to calculate winds in the daytime convective mixing layer. Air Resources Field Research Office, Cincinnati, Ohio (unpublished manuscript).

Pooler, F., Jr., 1965: A tracer study of dispersion over a city. APCA Journal, 16, 677-681.

U. S. Weather Bureau, 1964a: Circular N-Manual of surface observations. Seventh edition (revised to include changes 1 to 12).

U. S. Weather Bureau, 1964b: Circular O-Winds aloft observations. Fifth edition (revised to include changes 1 and 2).

U. S. Weather Bureau, 1964c: Circular P-Manual of radiosonde observations. Seventh edition (revised to include changes 1 to 5).




Preceding page blank

U. S. Weather Bureau: The daily weather map. Washington, D. C. (Published daily).

Walther, E., 1965: Winds, stability and twenty-four hour sulfur dioxide concentrations in metropolitan St. Louis, Missouri. Master's thesis St. Louis University, St. Louis, Missouri.